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Granby:

A manufacturing centre



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Granby:

A manufacturing centre



A sample study of a manufacturing area

An inductive approach

author
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Table of Contents

Unit I—The Hébert Family 1

Unit II—Finding Your Way Around Granby 5

Unit III—How Granby Has Grown 14

Unit IV—Granby's Industry 24

Unit V—The Granby Cooperative 33

Unit VI—Zones of Influence 40

Unit VII—Summary 45

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UNIT I: THE HÉBERT FAMILY

The Hébert family is having lunch. Mr. Hébert is home from work and the children are home from school.

QUESTIONS:

(1) How many children are there?

(2) Do you have lunch at home on weekdays?

(3) What are the Héberts having for lunch? Do you usually have a warm lunch?

The Héberts live in Granby, Quebec. In Quebec, it is common to go home for

FIGURE 1.

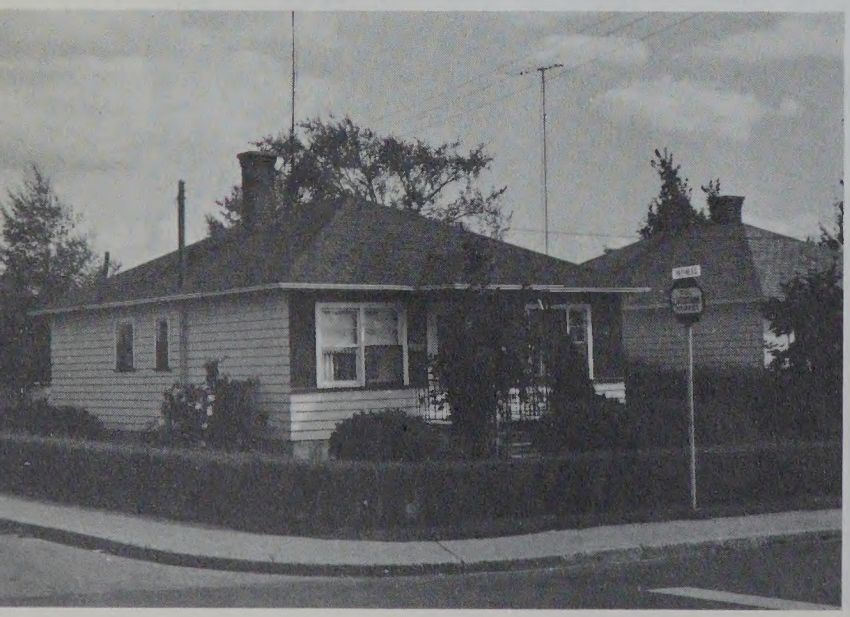




FIGURE 2.

lunch. This gives everyone a chance to have a warm meal and to relax for a while (figure 2) before going back to school or work.

FIGURE 3.



Let's look at figure 2. Can you find the girls who had so much trouble with the spaghetti in figure 1?

It is Jocelyne (pronounced zhos'leen), 9, third from the left on the chesterfield. Next to her on her right is her sister Ginette, 11, (pronounced zhee'net), and her brother Louis, (loo'ee), 12. Their little brother, François (fran swah) is just two years old.

QUESTIONS:

(1) What language do you think the Héberts speak at home? Are you going to learn French at school? Does someone in your class speak French at home?

(2) Figures 3, 4, 5, and 6 were taken in Granby. What names can you see in each one? What two languages appear to be spoken in Granby?

FIGURE 4.





FIGURE 5.



FIGURE 6.

The Hébert family speaks French at home. Their children attend French-speaking schools, and most of the family's friends speak French. However, there are many people living in Granby whose language is not French. Most of these speak English and send their children to English-speaking schools.

The city therefore provides its services in both languages. The City Hall, for instance, employs people who speak both languages, who are "bilingual." All the official signs are also bilingual.

Languages In Granby

QUESTIONS:

(1) What would be the most useful language for a newcomer to Granby?

(2) What percentage of people could not understand someone speaking French?

(3) What percentage of people could not understand someone speaking English?

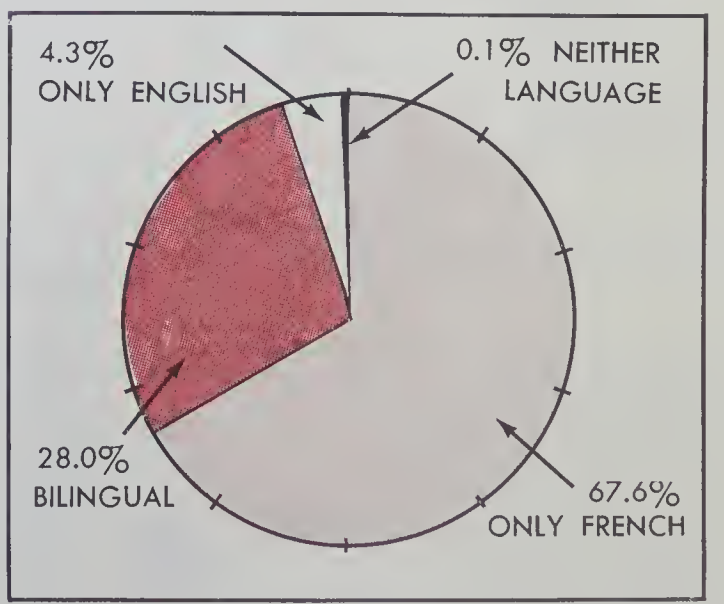


FIGURE 7.

Granby, Spoken Languages 1961	
French only	21,261
English only	1,347
French and English	8,834
Neither	21

FIGURE 8.

Figure 8 is taken from the Federal Government's figures for the census of 1961.

QUESTIONS:

(1) How long ago was this counting of the people done?

(2) How many of your families were in another place in 1961?

(3) Why do we need a new census soon?

(4) Mr. Hébert is bilingual. Can we then say that the Hébert family is representative of Granby? Are *most* people bilingual?

More than a quarter of Granby's population is bilingual. Yet figure 8 shows us that the majority of Granby's inhabitants are French Canadian by origin.

The Hébert family, having *one* member who is bilingual, yet being French Canadian, is thus representative of Granby.

QUESTIONS:

(1) In which *province* listed was the biggest percentage of people bilingual? Which was next? What was the percentage of bilingual people for all of Canada?

(2) Which was Granby most like, one of the provinces or all of Canada?

(3) Can you make up a statement about the way in which Granby is representative?

(4) Discuss in class why more people in Quebec than in Manitoba take the trouble to become bilingual.

FIGURE 9.

Languages Spoken, Census 1961

	English only	French only	English & French	Neither Language
Granby, P.Q.	4%	68%	28%	
Province of Quebec	12%	62%	25%	1%
Province of Manitoba	90%	1%	7%	2%
Province of New Brunswick	62%	19%	19%	
Canada	68%	19%	12%	1%

UNIT II: FINDING YOUR WAY AROUND GRANBY



FIGURE 10.

QUESTIONS:

(1) Find Ginette and Jocelyne in figure 10. In front of what building do you think they are?

(2) What sport do you think their friends enjoy?

(3) How old would you think the building in the background is?

(4) Find the school in figure 11. Find the Hébert house. Think of one reason why the Hébert family is able to have lunch at home. If Mr. Hébert could

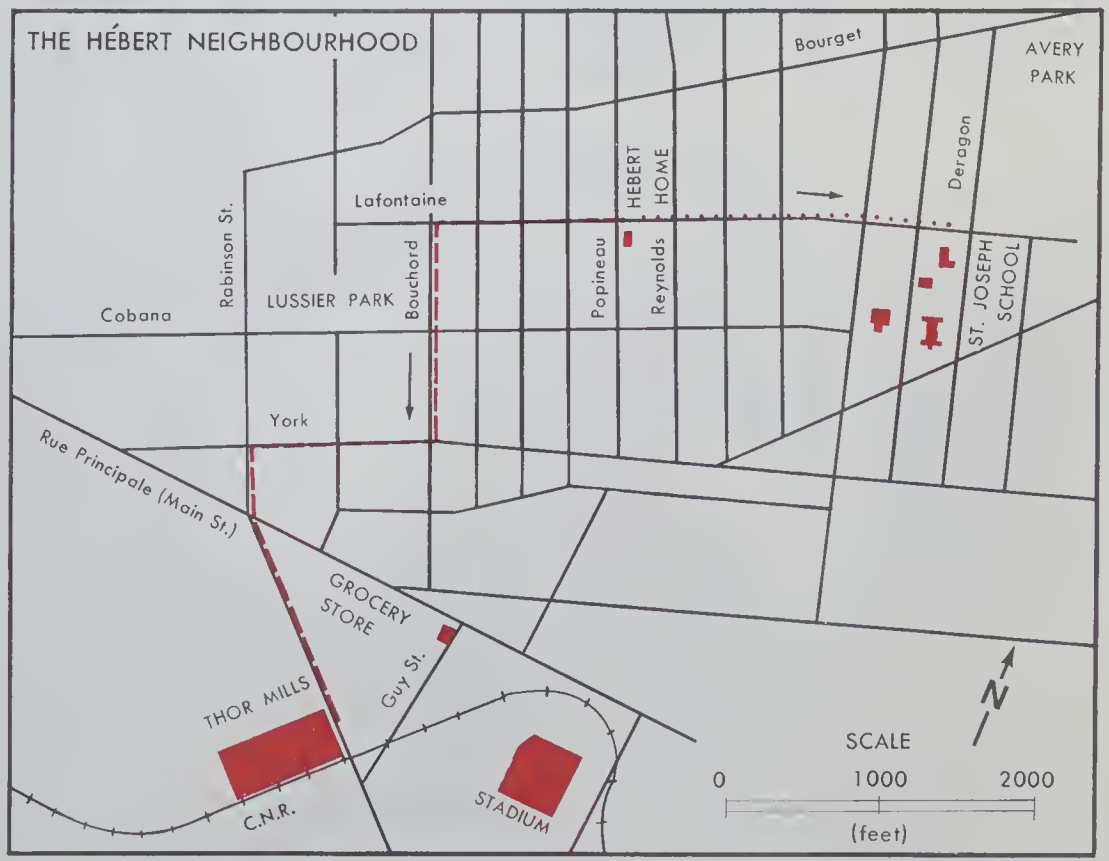


FIGURE 11.

walk about one mile in twenty minutes how long would it take him to walk home for lunch? How else could he go home?

(5) In what daily activities can the Hébert family engage without leaving their neighbourhood? Make a list from what you can discover on the map.

The Héberts could live for months in their neighbourhood without feeling any need to leave it. Mr. Hébert's place of work and the children's schools are all close by. The family does most of its shopping in a store only five minutes away by car. On Sundays, the family can attend mass at St-Joseph Church, half a mile away from the Hébert home. Very close to both the church and the schools is Avéry Park where the Hébert children can spend their free afternoons.

QUESTIONS:

(1) The Hébert neighbourhood can be found on figure 12. Which of the three rectangles is it? Can you find the school again, the Hébert home, Mr. Hébert's place of work, and the grocery store?

(2) What do the different colours (or shadings) on the map tell us? Avéry Park for instance, is shaded light grey. What does this mean? How is the land used on which the Hébert home stands? The school? The church? Mr. Hébert's place of work? The grocery?

*If you don't know what these words mean, try to learn them from this chart:

Word	Comes from the word	Meaning
recreational	recreation	leisure time activity
residential	reside	to live in
industrial	industry	factories
commercial	commerce	business
institutional	institution	big organization, such as a hospital, school, or church

When you go out on weekends see if you can find land or buildings in each one of these five categories.

(3) Compare the rectangle outlining the Hébert neighbourhood (1) with the other two rectangles (2 and 3). What is the major difference in the way the land is used?

(4) Which of the three rectangles would you identify as the Central Business District (CBD)?

(5) What features of section 3 might make it suitable for industry?

Rectangle 3 is almost entirely used for industrial purposes, that is, most of its land is covered with factories. Rectangle 2 has heavy shadings indicating commercial land use. This means that the area is used mostly for stores, restaurants, banks, office buildings, or other businesses. This

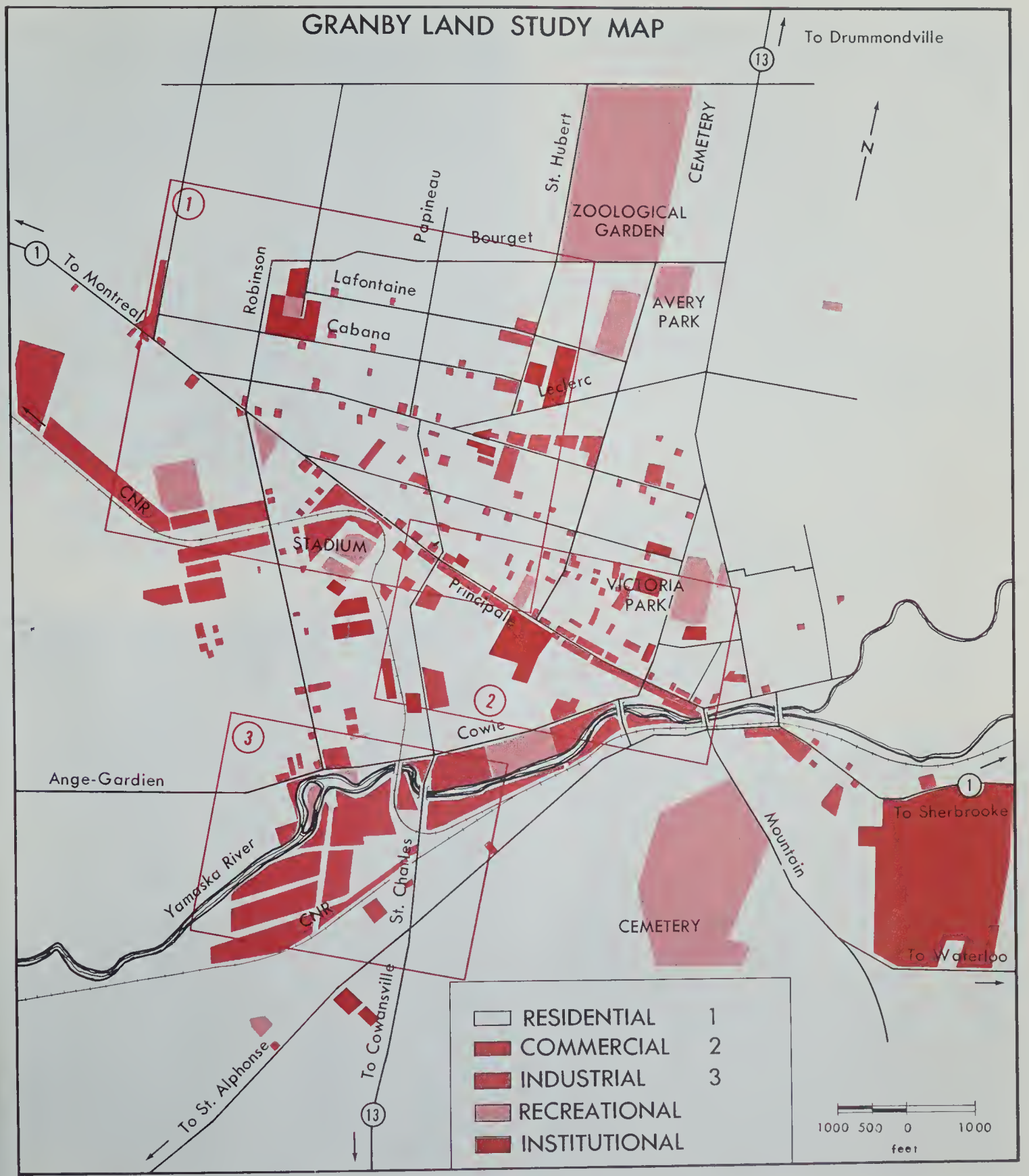

GRANBY LAND STUDY MAP
To Drummondville
13
N
CEMETERY
St. Hubert
Papineau
Bourget
ZOOLOGICAL GARDEN
1
To Montreal
Robinson
Lafontaine
Cabana
AVERY PARK
Leclerc
CNR
STADIUM
Principale
VICTORIA PARK
2
Cowie
3
Ange-Gardien
To Sherbrooke
Mountain
Yamaska River
St. Charles
CNR
CEMETERY
To Waterloo
To Cowansville
To St. Alphonse
RESIDENTIAL 1
COMMERCIAL 2
INDUSTRIAL 3
RECREATIONAL
INSTITUTIONAL
1000 500 0 1000
feet

FIGURE 12.

would make us think that this area is Granby's Central Business District (CBD).

The Hébert neighbourhood, however, has shadings of all kinds sprinkled throughout its area. How many commercial sections can you find? We can find more industry in its southern end, while its northern end is more heavily used for homes, or residential purposes. Churches and schools (institutional), as well as parks, playgrounds and a stadium (recreational) are equally spread out. How many of each can you find?



FIGURE 13.

QUESTIONS:

(1) Are shops spread out in many parts of the city or are they concentrated in one area?

(2) Why do you think shops are both spread out and concentrated? Look at figures 13 and 14 for clues to an answer.

(3) Why is Granby's CBD stretched along Main Street and not more evenly spread out?

(4) What problem would this cause?

The Héberts can do all of their food shopping in the neighbourhood grocery store. But once in a while, they will need things that they cannot buy at the grocery.

For instance, if Mr. Hébert wants some supplies for his hobby, photography (figure 15), he will have to go to the downtown hardware store shown in figure 14.

FIGURE 14.





Such stores, then, draw customers from all over the city and from the surrounding countryside. When people make a trip to the CBD, they usually want to buy several things from different stores. For this reason, the different stores like to be located close to each other. If one stood a distance away, customers would not take the trouble of visiting it.

For the same reason businessmen have felt it necessary to be established along Main Street. But because most people like to drive into town, (figure 16) this quite often causes a traffic jam. So why do you think the Héberts go downtown only when they have to and prefer to do their grocery shopping in their own neighbourhood?

FIGURE 15.

FIGURE 16.



QUESTIONS:

(1) What could the river have to do with the location of a factory? Can you explain the use of the reservoir pictured in figure 17, page 11?

(2) Why is it a good idea to have factories concentrated in main areas? How many main factory areas are there in Granby?

(3) What kinds of industries are likely to be spread throughout the city? Thinking of the transportation facilities available will help you answer this question.

As with businesses, two different kinds of industries can be found in Granby. The reasons for industries to concentrate in one area, however, are different from those we found to be true of businesses.

In Granby, concentrations of factories are found along the CNR tracks and along the North Yamaska River. If an industrial plant produces heavy goods, it pays to have it located near the railroad to cut down transportation costs. On the other hand, if the goods produced are light, the plant may locate anywhere convenient in the city since it will rely on truck transportation. This is why light industries are found throughout Granby, while heavy industries tend to concentrate along the CNR tracks. Is this also true of cities such as Winnipeg? You could undertake an interesting study of all the industries in your district to find out which ones are "heavy" and need to rely on the railway for transport.

If a light industry is also a clean one people sometimes are prepared to live near it. What could be an advantage, for people like Mr. Hébert, of having clean light industries near their neighbourhood? What advantage could it be for the industry?

Some heavy industries use large amounts of water in the manufacture of their products. This is why some plants have even built their own reservoirs. The sewage can then be let off directly into the North Yamaska River without straining the city's sewerage system.

QUESTIONS:

(1) What happens to the rivers and lakes when much of this industrial sewage is dumped into them?

(2) What can be done to solve this problem? Why do you think it was not solved long ago?

Many industries use fluids in the manufacture of their products that dissolve very slowly in water or that are poisonous. When these are dumped into the river, they kill the fish and natural vegetation which usually clean the river. As a result, the river loses its power to cleanse itself and becomes dirty and foul-smelling.

Many provinces now require industries to clean their sewage before dumping it into the river. However, the water treatment plants necessary for such cleaning are often very expensive, and industries are unwilling to install them. Nevertheless, many now agree that it is important to prevent water pollution.

Another reason why the problem has not been solved is that scientists are trying to find more effective ways to treat sewage.

QUESTIONS:

(1) What reasons can you find for keeping rivers and lakes free from pollution?

2) What reasons might a fisherman give? A medical doctor? A city's mayor? Children?

(3) Can you think of a river or lake in your neighbourhood which is too polluted to drink from? Too polluted to swim in?

(4) What other kind of pollution can you think of? Using figure 17, do you think it is a problem in Granby? Is it a serious problem in one of the cities you are familiar with?

As rivers and lakes get more polluted, it becomes harder and harder to find clean drinking water. Towns and cities have to

FIGURE 17.



An aerial view of Granby / 11

spend more money on purifying their drinking water used. However, the more chemicals we add to drinking water the worse it tastes. In the long run it will be healthier as well as less expensive to control pollution instead of purifying the drinking water.

Another kind of pollution, air pollution, is not yet as serious a problem in Granby. However, other cities in Canada, such as Hamilton, Oshawa, and Winnipeg have so much pollution in the air that it may become dangerous to people's health.

QUESTIONS:

(1) What makes Granby look like a pleasant city from the air (figure 17)? Find the lake on the map (figure 12). Find the bridge in the picture on the map. What else can you see in both map and picture? What things can you see in the photograph but not on the map?

(2) Name some parks along the North Yamaska River. (Check figure 12.)

(3) Which parks are the Hébert children likely to use? Do they show on the photograph?

(4) If you visited Granby over a weekend, where would you want to go? Look at figures 18, 19, and 20, as well as the map to answer this question.

(5) What is the reason that recreational facilities are spread throughout Granby?

FIGURE 18.



FIGURE 19.



Granby's recreational facilities range from the well-known Granby Zoo over the city's many parks and its sports arena to a Museum of Arts. The parks and playgrounds are evenly distributed over the city so that they are readily accessible to everyone.

Summary

There are two kinds of land use, mixed and concentrated. Some areas of Granby are used for a mixture of many purposes, commercial, industrial, recreational, institutional, or residential. Others have a heavy concentration of one of these uses.

The mixing of residential and industrial areas is not always desirable, often because of water and air pollution. This is why in most cities, their governments have established clear-cut zones for industrial or residential use. In the Winnipeg study we have seen that these zones are even broken down into light industrial and heavy industrial zones.



FIGURE 20.

THINGS TO DO:

Make a list of all the ways you know that people try to keep their cities pleasant places to live in. How are these matters dealt with in your area? Perhaps you should go to city hall and find out. Then you could make a big mural map in the corridor to show what you have discovered.

UNIT III: HOW GRANBY HAS GROWN

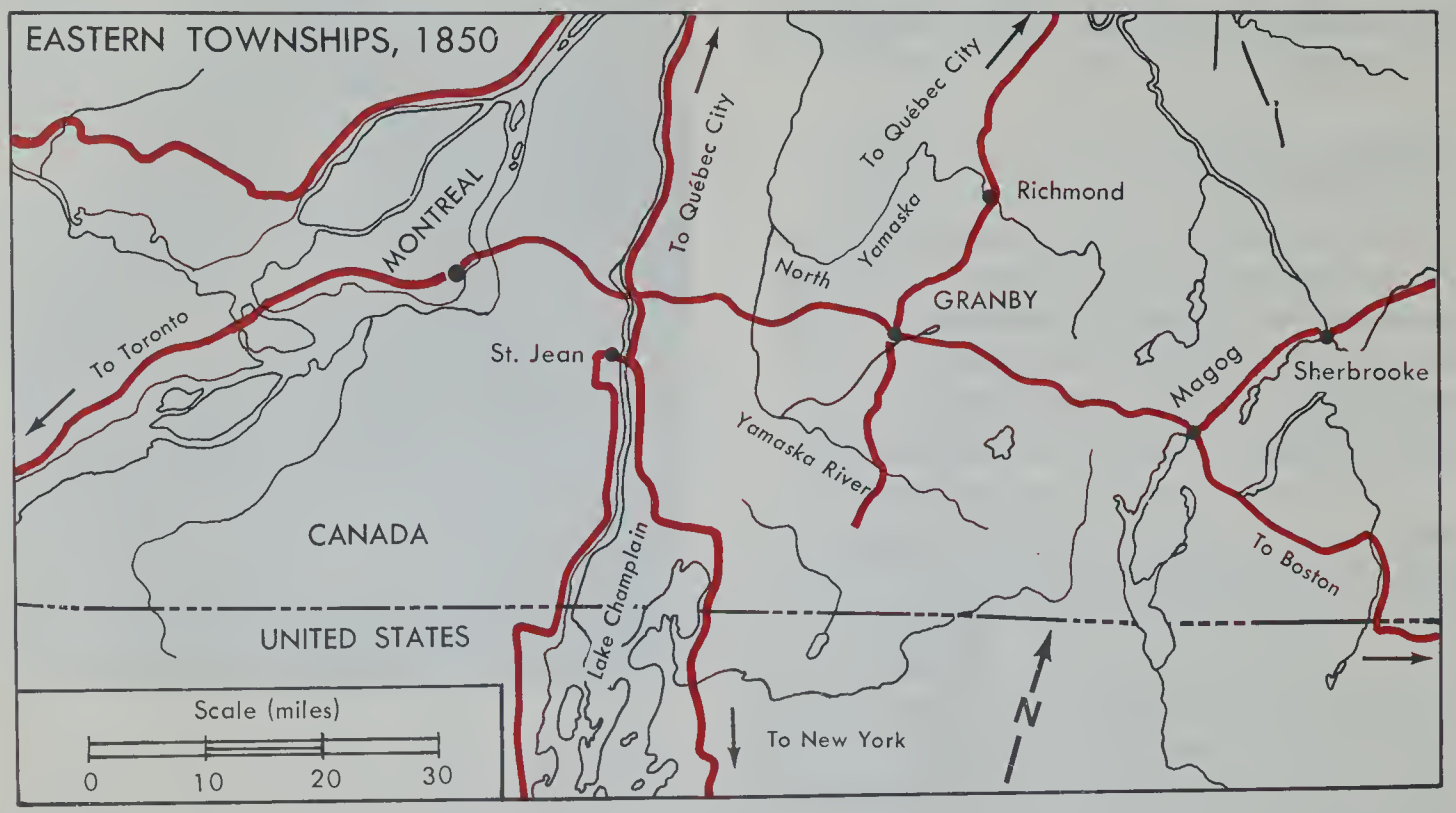


FIGURE 21.

QUESTIONS:

(1) From figure 21, tell how far Granby is from Montreal. How far is it from the U.S. border?

(2) In 1850, on which main routes was Granby located?

(3) The area shown in figure 21 is called "Eastern Townships." Why do you think these townships got the name "eastern"?

Granby is closer to the United States than it is to Montreal. This is a clue to its origin, because the area was first settled by people from the United States. These were Loyalists, people who remained loyal to England when the United States declared its independence from England. They moved into the Eastern Townships, east of Montreal, after 1780. Moving north toward Quebec City, they built one of the most important roads through the Eastern Townships, Craig's Road. Today

it is known as Highway 13 and has lost most of its importance. We'll see why later.

Where it crossed the north branch of the Yamaska River, Craig's Road met another very important road. That road, now Highway 1, connected Sherbrooke, the largest town in the Eastern Townships, with Montreal. A bridge built for that route crossed the North Yamaska River at the narrowest place, where Granby's Mountain Street bridge (figure 22) now stands. The builders of Craig's Road then used this same bridge for their north-south route.

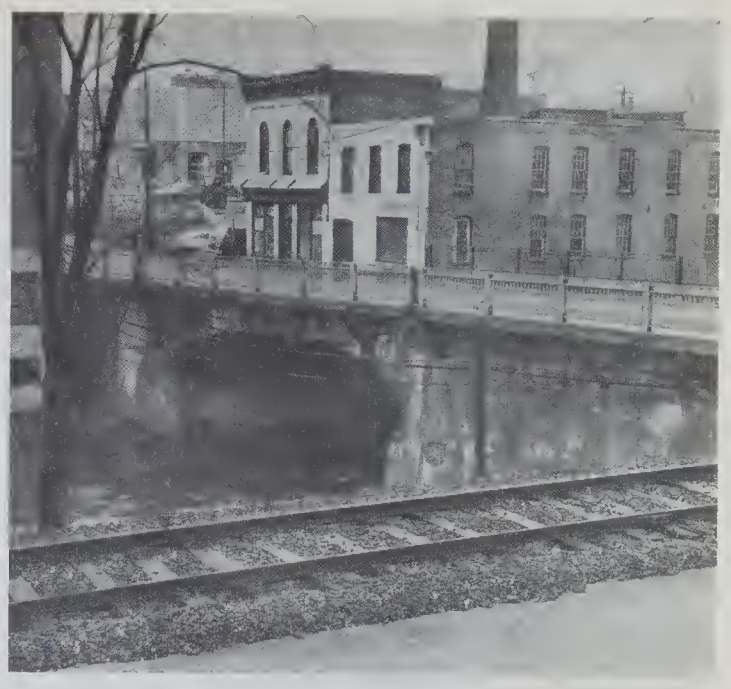


FIGURE 22.

QUESTIONS:

(1) Compare figure 22 with figure 28. Where did the photographer stand? Check the tracks in the foreground with the diagram to answer this question.

(2) In which direction did the photographer point his camera?

(3) Find the Mountain Street bridge on figure 12. How many bridges are there between it and the lake? Can you find the Mountain Street bridge in figure 17?

(4) Look at figure 22 at the building on the right, on the other side of the North Yamaska River. This is the place where John Horner from Vermont, U.S., built a flour mill in 1813. He was the first pioneer to settle in this spot. How many years ago did John Horner settle in Granby? What was happening in your area at that time?

(5) Why would he settle close to the river? Think of the way flour mills worked 150 years ago; figure 24 will give you some important information but you will probably need to read in the library about water wheels and mill dams.

(6) Why would Horner settle so close to the bridge?

Why is an intersection between two major roads usually a better location to start a business than one along an open road? Yes, traffic could be twice as heavy, thus there are more people to buy one's product. Or, in the case of John Horner, there were not two, but four directions where he could send his flour: to Sherbrooke, to Montreal, to Quebec City, and to the United States.



FIGURE 23.

There was another important reason for building a flour mill in that spot. The North Yamaska River flows quite rapidly in this area, dropping as much as 35 feet in a mile (figure 24). Rapidly flowing water was needed to turn the wheel for power for the flour mill, and later also for Horner's sawmill.

QUESTIONS:

(1) Look at figure 25. Can you find other towns or cities that probably originated at an intersection? (Compare figure 25 with figure 21 as well.) Does traffic always have to move on land?

(2) Can you think of reasons, (other than an intersection), to start a town or city? Think perhaps of Montreal and Quebec City, Flin Flon, Port Arthur-Fort William.

The cities of Magog and St-Jean are located along rivers as well as on important highway intersections. This makes



FIGURE 24 and FIGURE 25.

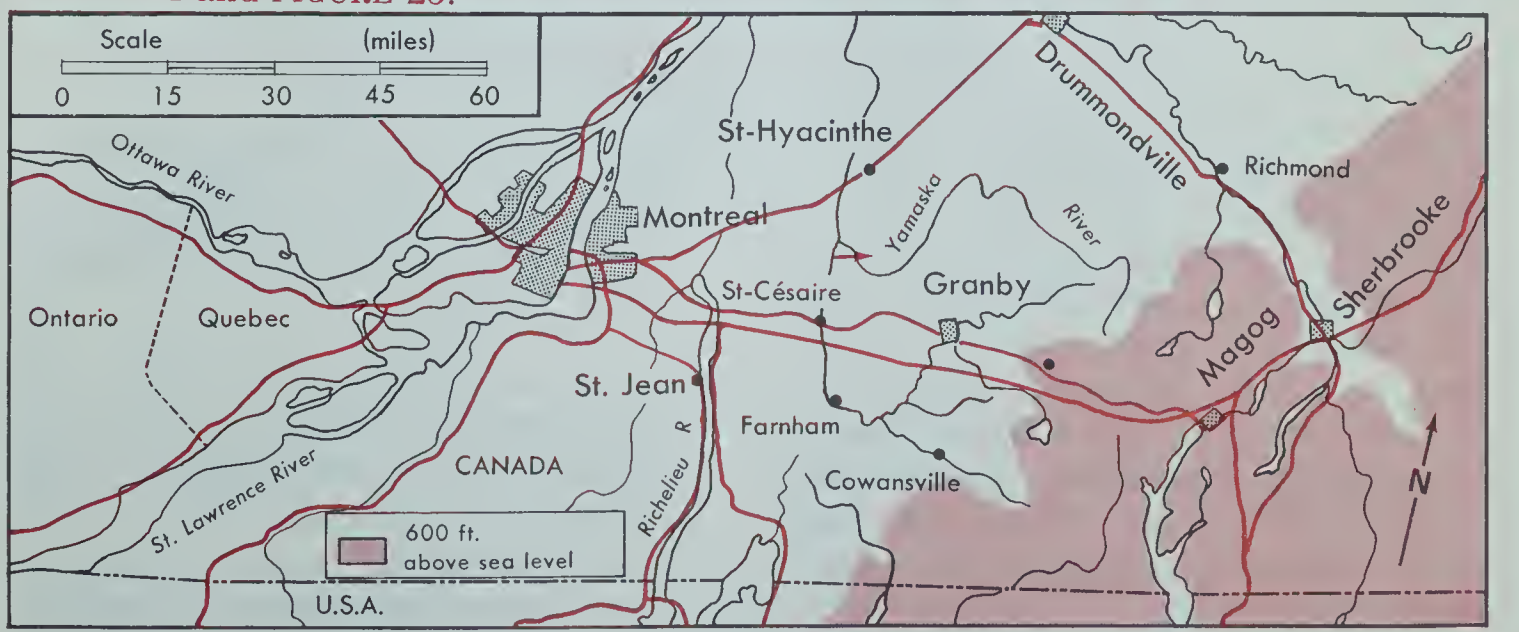




FIGURE 26.



FIGURE 27.

us suspect that these cities had an origin similar to that of Granby.

There are other reasons as well why settlers may want to found a city. There was no intersection of roads in Richmond, P.Q., 100 years ago. But a Craig's Road bridge crossed the St-François River at the point where Richmond was founded later. The bridge was probably the main reason for the town to be built.

Montreal and Quebec City, you may recall from history, began as forts. Flin Flon, Manitoba, would not be a town today, were it not for its mineral wealth, and Port Arthur and Fort William show their origin in their names. One got its start as a port to the West, while the other, a military fort, guarded the trading routes.

Thus, a city is usually founded to serve a distinct purpose or function. Make a list of all the functions which we have just suggested.

QUESTIONS:

(1) Another function is illustrated in figure 26. What does the picture show? Which function is illustrated? Add it to the list.

(2) Find the church shown in figure 27 on figure 28. What does the notice board tell about the language spoken by the settlers of that time? Can you find other evidence on the map to back up your answer to this question?

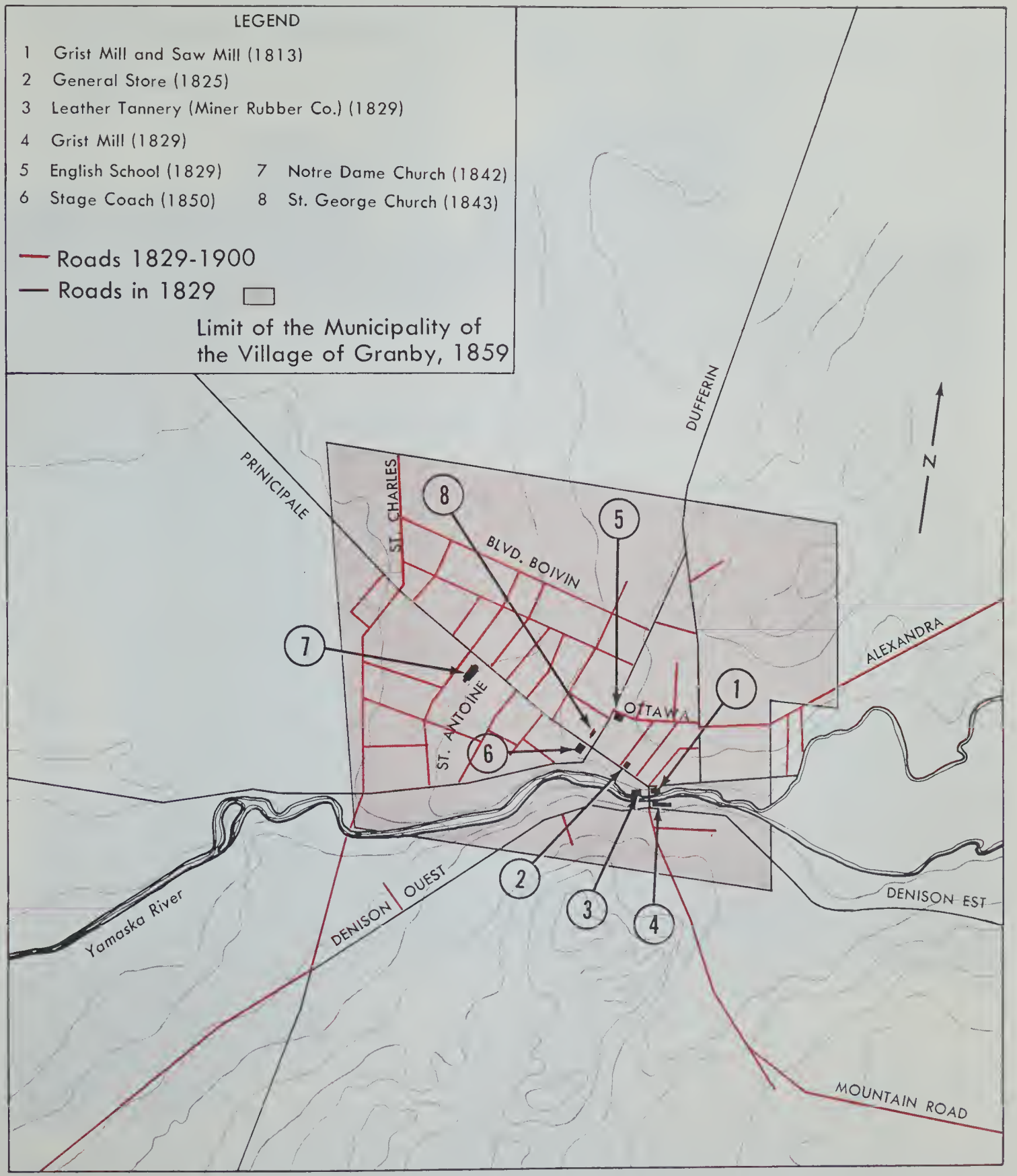

LEGEND
1 Grist Mill and Saw Mill (1813)
2 General Store (1825)
3 Leather Tannery (Miner Rubber Co.) (1829)
4 Grist Mill (1829)
5 English School (1829)
6 Stage Coach (1850)
7 Notre Dame Church (1842)
8 St. George Church (1843)
Roads 1829-1900
Roads in 1829
Limit of the Municipality of the Village of Granby, 1859
DUFFERIN
PRINICIPALE
ST. CHARLES
BLVD. BOIVIN
ST. ANTOINE
OTTAWA
ALEXANDRA
N
Yamaska River
DENISON OUEST
DENISON EST
MOUNTAIN ROAD

FIGURE 28.

One of the original settlers, Harlow Miner, started a leather tannery in 1829. This was to be Granby's first local industry, for the tannery later grew into the Miner Rubber Company. Tanneries use water and Miner's set the trend of locating Granby's industry along the North Yamaska River.

By 1856, when Granby officially became a village, the main language spoken was still English. The street names within the new area as well as the new churches and school show this.

GRANBY: AREA IN SQUARE MILES

Date	*Area*
1859	1
1925	$1\frac{1}{2}$
1940	2
1946	$2\frac{1}{2}$
1948	3
1954	5
1968	$7\frac{1}{2}$

FIGURE 29.

QUESTIONS:

(1) How many times larger is Granby today than it was over 100 years ago?

(2) Trace the lines and copy the numbers from figure 30. Then mark the areas for the different dates on the graph and connect these marks.

(3) From the graph you made yourself you can recognize two main periods: a period of slow growth and a period of fast growth. When was Granby growing slowly? When was it growing quickly?

(4) In which directions has the city expanded in the last 100 years (figure 31)?

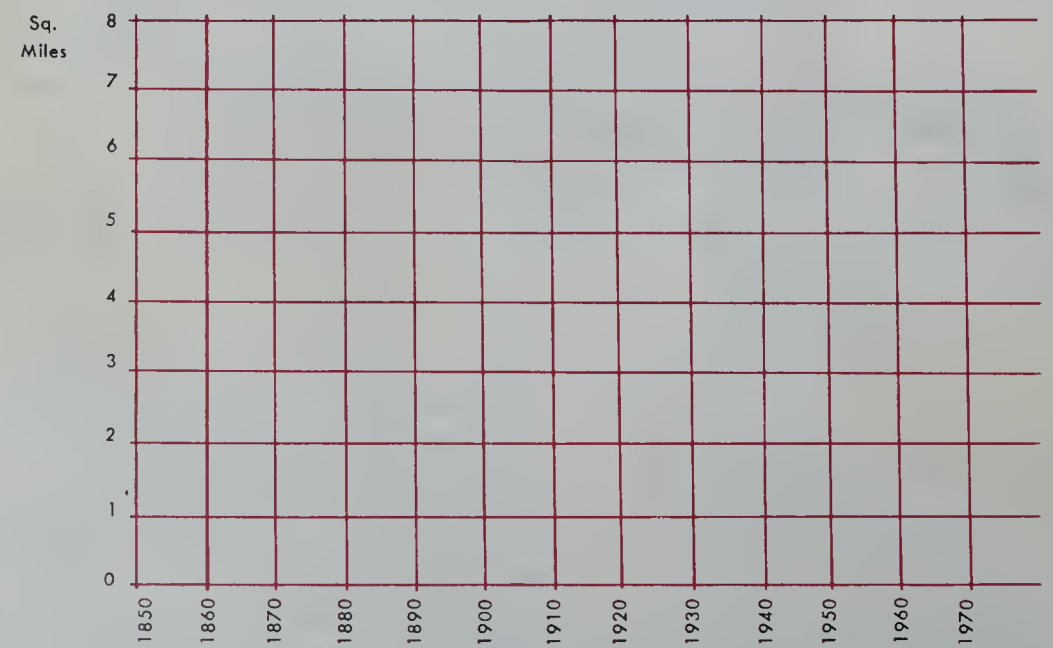
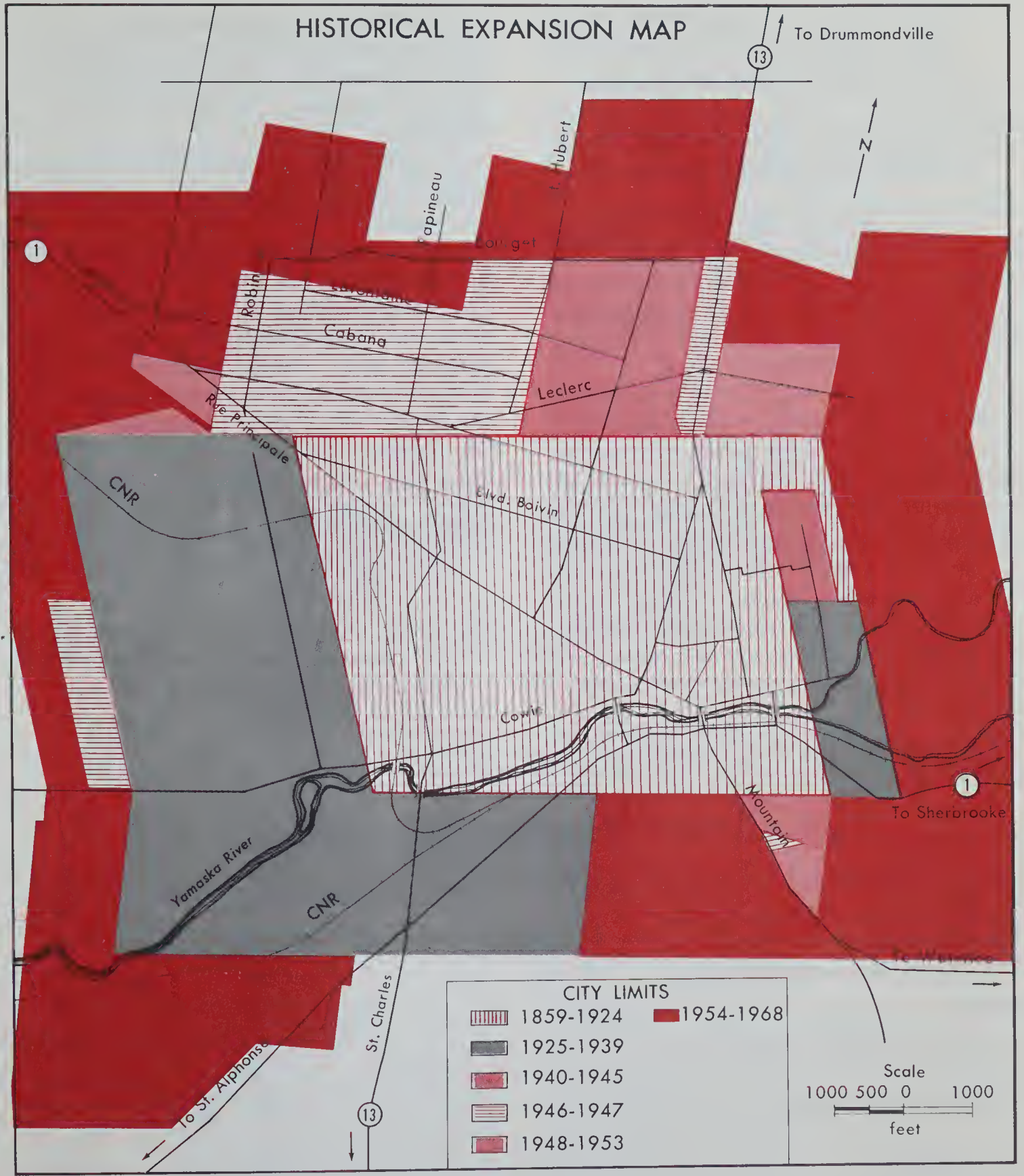


FIGURE 30.

FIGURE 31.


HISTORICAL EXPANSION MAP
To Drummondville
13
N
1
Robin
Cabana
Leclerc
Rue Principale
CNR
Blvd. Boivin
Cowie
Mountain
To Sherbrooke
Yamaska River
CNR
St. Charles
To St. Alphonse
CITY LIMITS
1859-1924
1925-1939
1940-1945
1946-1947
1948-1953
1954-1968
Scale
1000 500 0 1000
feet

(5) When Granby extended its city limits (1925) what language did many people speak? What are the clues?

(6) How many times has Granby extended its boundaries since then?

Over the last 100 years, Granby's area has increased nearly ten times. The greatest increase has come in the last 30 years when the more outlying neighbourhoods were built. Since then, the city has become four times as large.

From the time the first settlers showed a liking for the north shore of the North Yamaska River, Granby started to develop northward. The territory to the north is fairly flat in comparison with the sloping ground of the south shore. Traffic to the north shore had to go over the Mountain Street bridge, making movement to and from the north shore cumbersome and slow. What are two reasons for most people settling on the north side?

The street names in the newer parts of the city are nearly all French. This shows how the population changed from mainly English-speaking to mainly French-speaking.

Granby's first population came mainly from America. But when the Canadian government started selling large tracts of land in 1854, it was French Canadians who bought them up. As a result, the French population of Granby suddenly rose, and English-speaking immigration petered out. Since 1871, the French Canadian population has been larger than the English Canadian population.

QUESTIONS:

(1) Compare figures 21 and 25. What has happened to the main routes? How has this influenced Granby?

(2) What was Granby's first main source of income? (Remember it was built at an intersection for a reason.)

FIGURE 32.

WORKING POPULATION OF GRANBY, 1961

Categories	*Men*	*Women*
Industry	3,856	1,818
Construction	547	10
Transport and communication	384	94
Trade	843	262
Finance, insurance, realty	161	102
Services	690	891
Public administration	268	24
All categories	6,749	3,201

(3) Of the working men and women of Granby, in which field are most employed now? Look at figure 32.

(4) What does this say about Granby's main source of income today?

(5) Name some other cities in Canada which are based on industries?

6) How many thousand men work in Granby? How many thousand women work in Granby? How many men go to work in Granby for every one woman? Make a count for your class of all the men and women who go to work from your families. (Count anyone who is unemployed also.) How many men do you have at work for each woman at work? Is it very different from Granby? Why? Suggest some reasons.

Summary

Granby has changed in its 150 years of history. It began as a settlement of Americans in Canada, but it is now a predominantly French Canadian city.

It was started as a trading centre on an intersection. Today the old routes have lost their importance. The U.S.-Quebec City route bypasses Granby to the west. The Montreal-Sherbrooke route has been made into an expressway which passes the city to the south.

But Granby has become important in other ways. One of its main sources of income is its industry which employs the greatest part of Granby's working population. What would you say is the main function of Granby today?

UNIT IV: GRANBY'S INDUSTRY



FIGURE 33. Thor Mills Plant



FIGURE 34.

FIGURE 35.



FIGURE 36.



QUESTIONS:

(1) Figure 33 shows Mr. Hébert's place of work. What is the name of the plant?

(2) What does Mr. Hébert appear to be working with (figure 34)?

(3) Figure 35 shows the raw material used by Thor Mills Limited. Figure 36 shows the end product as you would find it in a store. Can you guess what Thor Mills Limited manufactures? What main process is still needed before you have cloth for clothes?

(4) Do you know what the raw material is called? There are several possibilities.

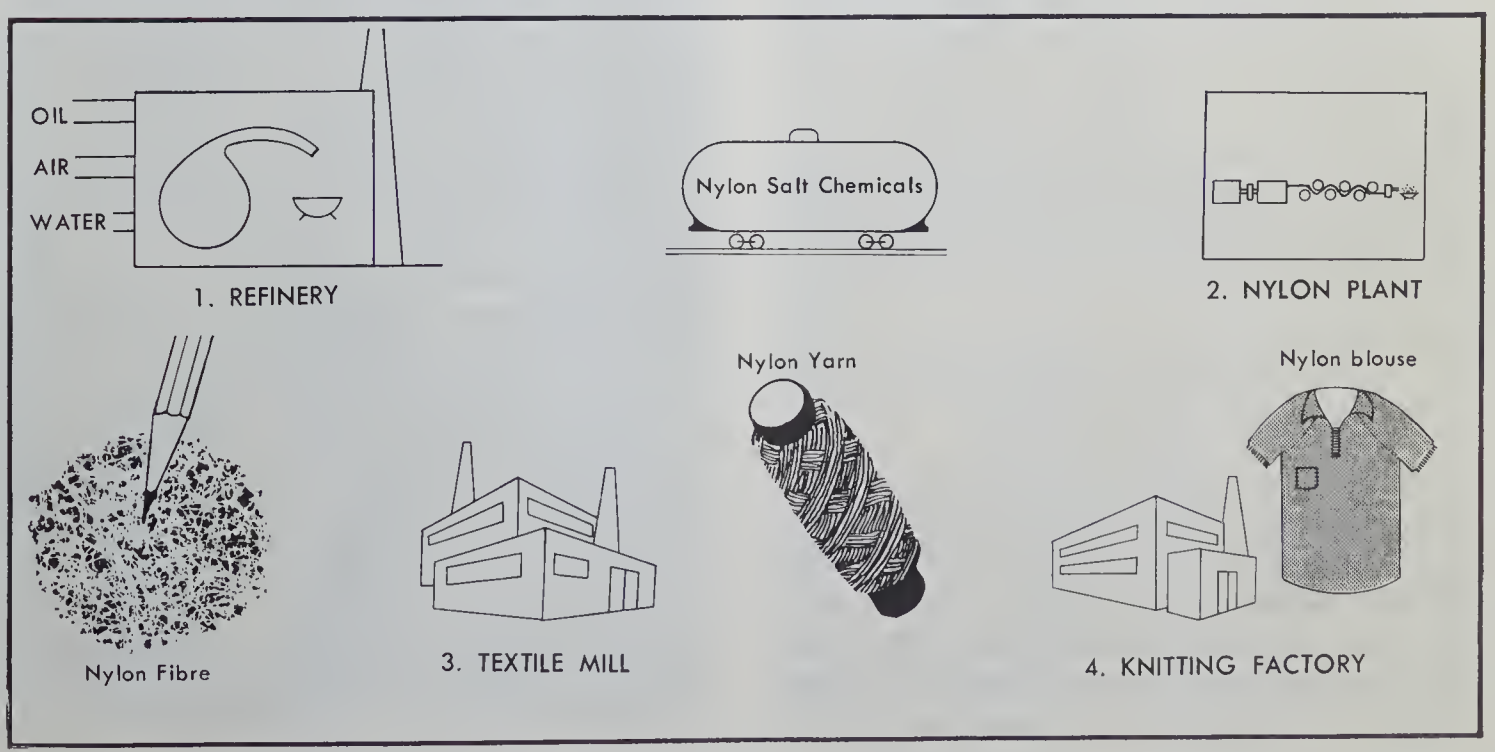
(5) Where could such raw materials be found?

(6) Which of your clothes are of natural and which ones of man-made material?

Mr. Hébert works at the Thor Mills Plant, a textile mill, which is located next to the CNR railroad crossing on Robinson Street. Thor Mills specializes in synthetic, or man-made fibres. These are known under such brand names as nylon, orlon, or mohair.

Synthetic fibres tend to be much stronger, more water-resistant, and easier to clean than natural fibres. This is why they have become increasingly popular in light clothing, slowly taking the place of cotton and wool, two natural fibres.

FIGURE 37.



The inner, frizzy ring on figure 35 shows synthetic fibre as it arrives at the Thor Mills Plant. This fibre is then twisted into the yarn shown in figure 34. It may then go through various other stages, depending on what the yarn will be used for. But eventually, it will be shipped to knitting or weaving factories in the form shown in figure 36.

(1) What is the last picture in this diagram? What is the first? So what does figure 37 show?

(2) Which raw materials are used to make nylon fibre?

(3) Can you tell which steps are involved in making a nylon blouse?

(4) Which of these steps is Mr. Hébert concerned with?

(5) Figure 38 shows the second step of the above chart in detail. Can you match figures 39, 40, and 41 with the different steps of making nylon fibre?

(6) What is an evaporator? An autoclave? A hopper? A spinneret? Look these words up in a dictionary if necessary.

(7) Now try to tell how nylon fibre is made from the answers you gave above and from figure 38.

A long, complicated process is necessary to make nylon fibre. At Dupont Maitland, Ontario plant, oil, water, and air are changed into two chemicals which are then shipped to Kingston, Ontario where they are combined to make nylon salt.

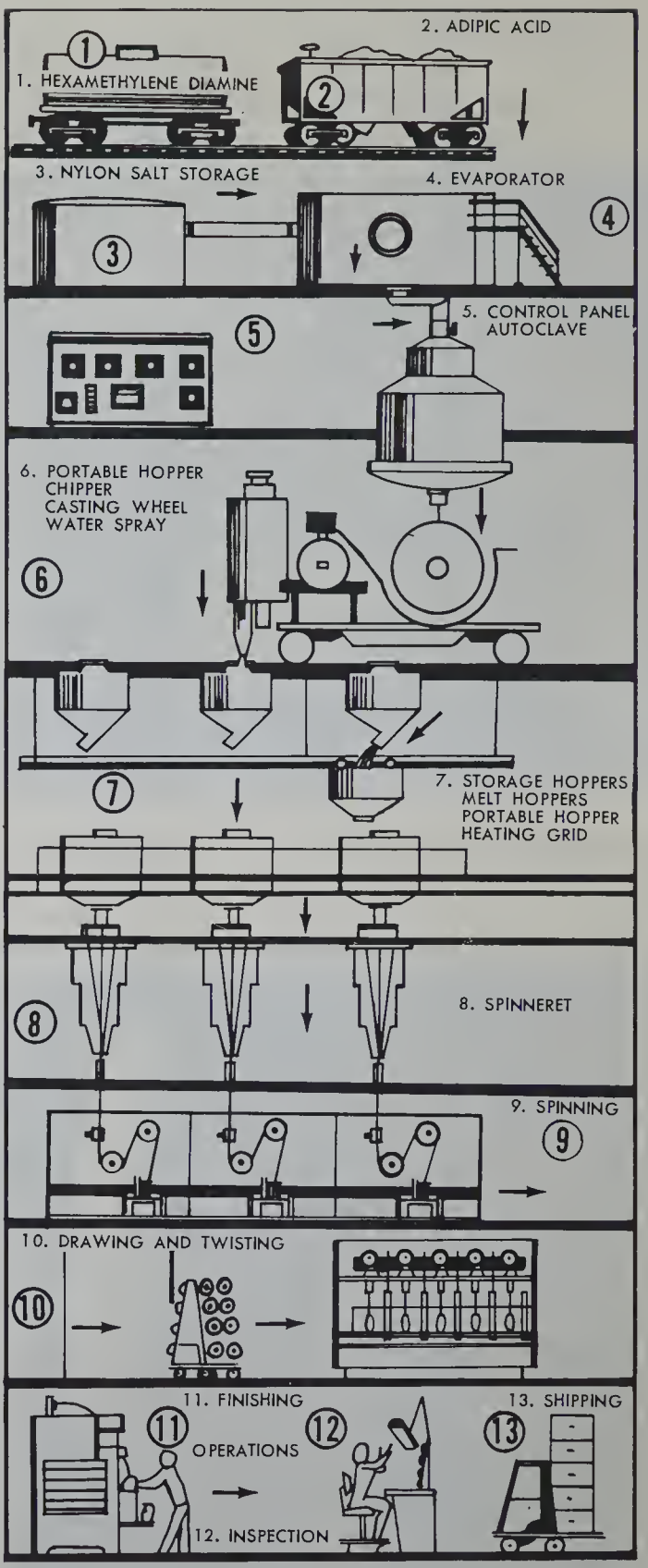


FIGURE 38.

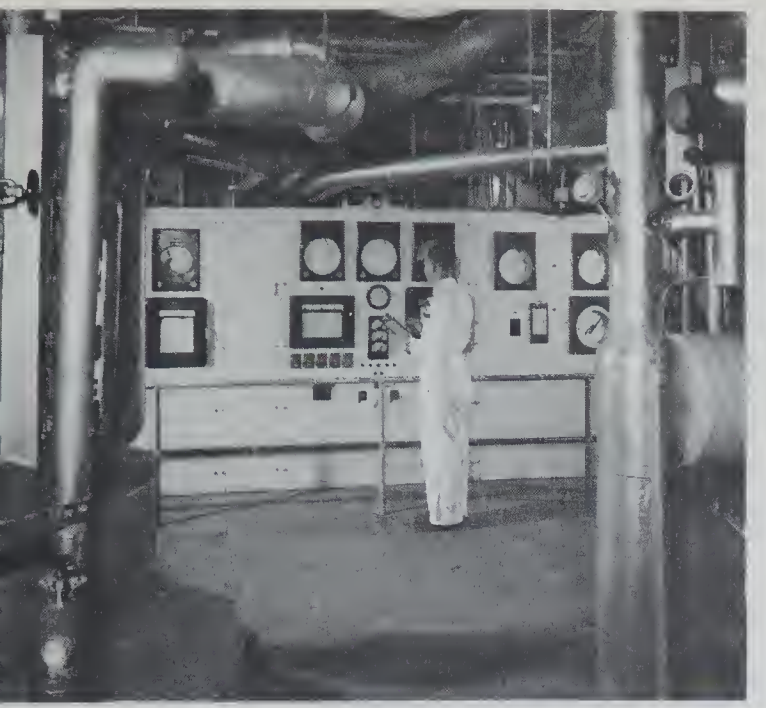


FIGURE 39.



FIGURE 41.

FIGURE 40.



In a large evaporator, much of the water is removed from the nylon salt solution. The salt then flows into a sort of giant pressure cooker called an autoclave (several autoclaves are shown in figure 42).

The pressure in these autoclaves is carefully controlled from a panel (figure 39).

In this autoclave the molten nylon salt is changed to the molecules that make it so strong, and yet so elastic. It comes out of the autoclave through a slit, is

cooled by a water spray, and then chipped into nylon flake (figure 43) for storage in hoppers.

A portable hopper (top in figure 40) then carries the nylon flake to a melting hopper (botton in figure 40) where it is heated and pressed through a spinneret, a metal plate with fine holes. The nylon from the spinneret is cooled in cold air (figure 41) before it is drawn and rolled up on spools (figure 44).

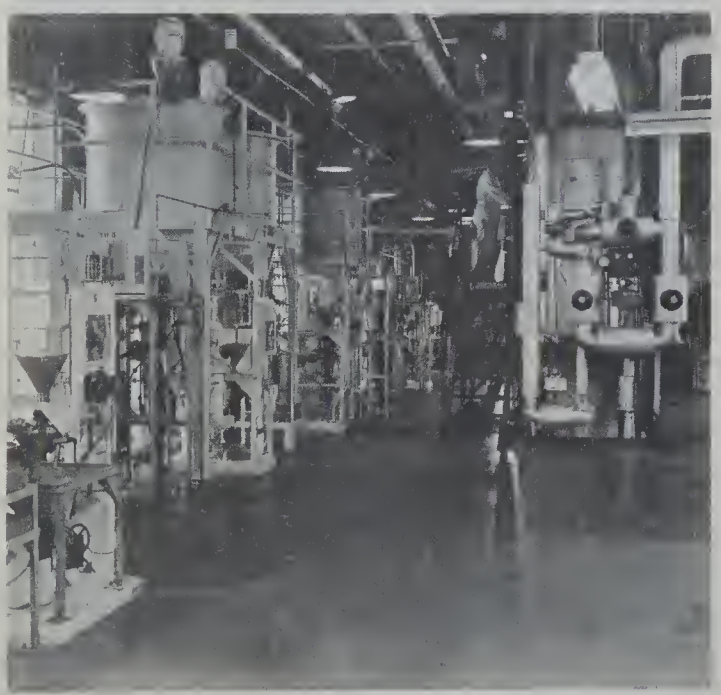


FIGURE 42.

These fluffy strands, called nylon fibre, are then shipped to Thor Mills in Granby, P.Q. There they are twisted, or combined with other fibres; they are then sent to the weaving or knitting factory. From there the cloth is sewn to make the nylon blouse.



FIGURE 43.

FIGURE 44.



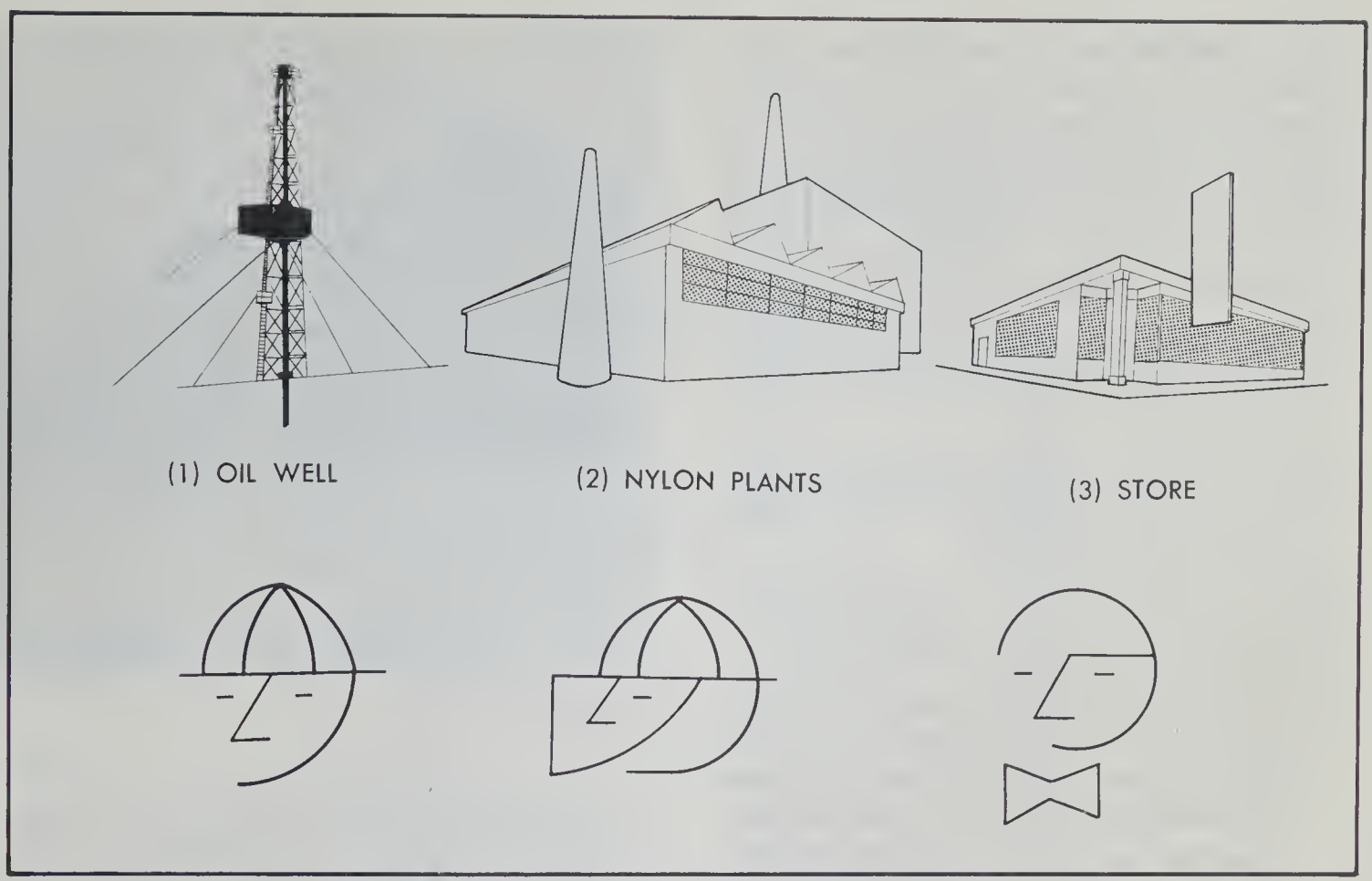


FIGURE 45.

FIGURE 46.



QUESTIONS:

(1) Figure 45 shows the workers involved in the three main steps of making and selling a nylon blouse. How are they different from each other?

(2) Into which one of the three categories does Mr. Hébert fit?

(3) A coal miner, a fisherman, a lumberman and a farmer all belong in the first category. In what way is their work similar?

(4) Figures 34 and 46 show workers of the second category. What do they have in common?

From school you probably know what *primary* and *secondary* mean. People who go beyond high school go into *tertiary* education. If you have a good dictionary you will be able to find out where we got the words primary, secondary, tertiary, to mean first, second, and third levels.

(5) Into which category would you place the people shown in figures 47 and 48? Why?

(6) The third category contains so-called white-collar workers. Why would they have that name?

(7) Name some other occupations you would put into this last category.

(8) Into which category does your father fit? Your mother? Make a list of the occupations in your class and find out which category is the largest. Discuss what would happen if people in any one of the three categories stopped working.

FIGURE 47.





FIGURE 48.

A fisherman takes a product out of the sea just as miners, lumbermen and farmers take theirs out of the earth. They are the first link in the long chain that brings these materials to the buyer. This is why they are said to belong to the primary sector of the working population.

Mr. Hébert is busy with the processing of the goods, as are the workers at a Dupont of Canada factory (figure 46). Once the goods have passed through their hands, they come out as finished products. This part of the working population we call the secondary sector.

Into the last category, or the tertiary sector, we place all those people who do not belong in the first two categories. These are the people who are not producing goods but are producing services. Office workers (figure 47), salesmen (figure 48), and also teachers or doctors belong

to the tertiary sector. They often wear white shirts, while workers of the primary and secondary sectors usually wear coloured working clothes. This is why the working population is often divided into the blue-collar workers and white-collar workers.

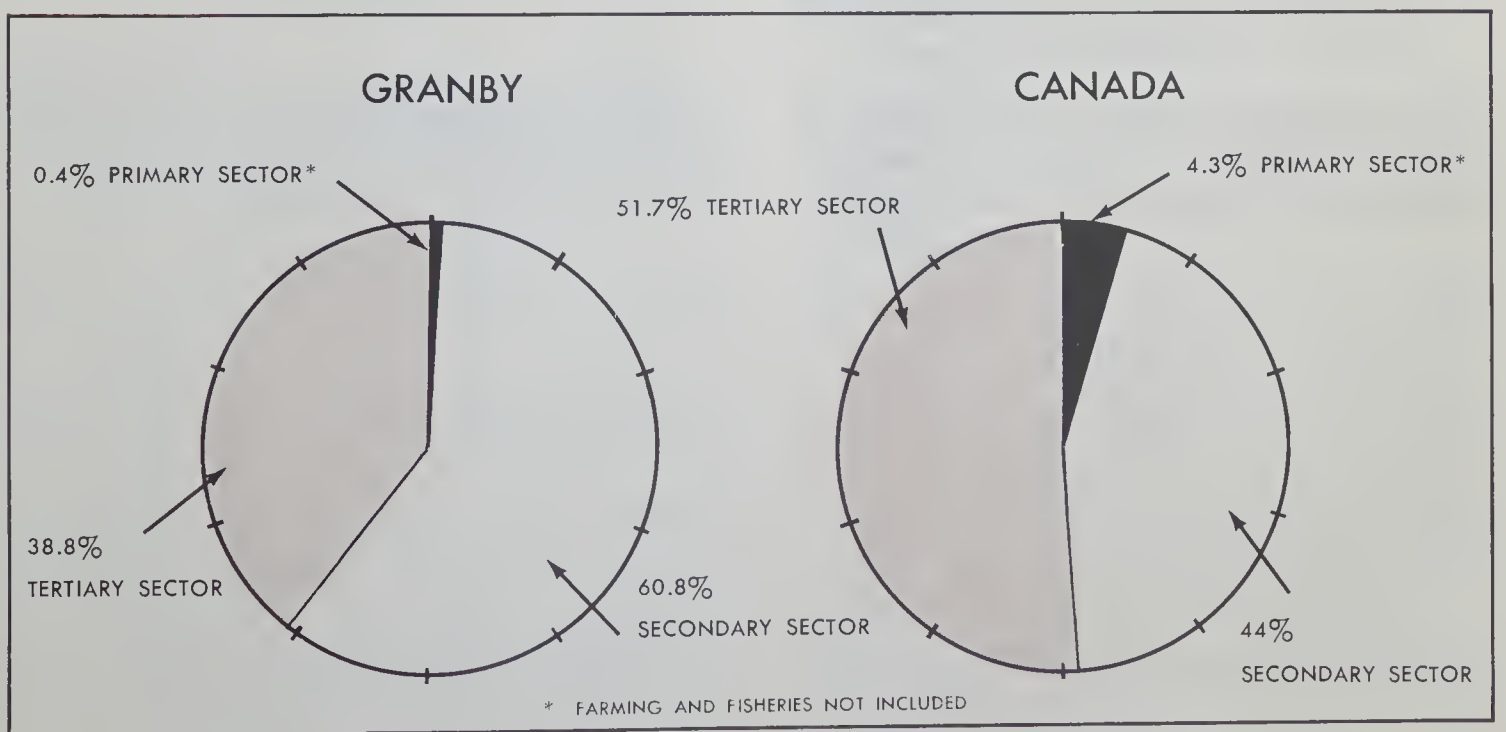
Another way of dividing up part of the working population is used by the Canada Census (figure 49).

WORKING POPULATION OF GRANBY

Categories	*Men*	*Women*
Mining, forestry, etc.	53	0
Manufacturing	3,803	1,818
Construction	547	10
Transport, communication and other utilities	384	94
Public administration	268	24
Trade	843	262
Finance, insurance and real estate	161	102
Services	690	891
Total	6,749	3,201

FIGURE 49.

FIGURE 50.



QUESTIONS:

(1) Which of the categories listed on figure 49 would you think belong in the primary sector? The secondary sector? The tertiary sector?

(2) In which category on the list are there more women than men? Do you know what kinds of jobs are included in that category?

(3) Figure 49 lists more than twice as many men as it does women. Why is that so?

(4) Figure 50 compares Granby's working population with that of Canada as a whole. What stands out as Granby's most important sector? Which is Canada's largest sector? Which sector has little importance in Granby? How does it compare with the same sector for Canada?

(5) Discuss the question: is the working force of Granby representative of Canada as a whole?

The primary sector is very small in Granby. Only 53 men and no women are employed in mining and forestry (farming is not listed in figures 49 and 50). This makes it less than $\frac{1}{2}$ of 1% of the employment total, as against a national average of over 4%.

The secondary sector (manufacturing and construction) employs more than 60% of Granby's working force. Being far above the national average of 44%, it marks Granby as a manufacturing centre.

The only category where women are in the majority is "services." This includes secretaries, teachers, hospital staff and similar jobs. This category and those others that have not yet been mentioned, together make up the tertiary sector of the labour force. Such categories as Public Administration, and Finance, Insurance and Real Estate are centred in the large cities of Montreal and Quebec City. Thus, they do not employ quite as many people in a smaller city like Granby. As a result, the tertiary sector is smaller there than it is in Canada as a whole.

Granby is mainly a manufacturing centre. This specialization sets Granby apart from other Canadian cities and is one of its main characteristics.

UNIT V: THE GRANBY COOPERATIVE

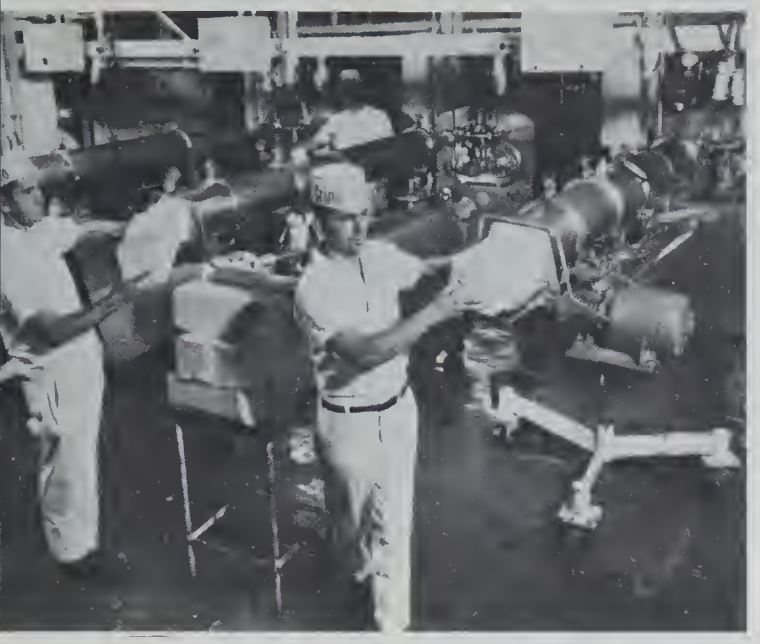


FIGURE 51.

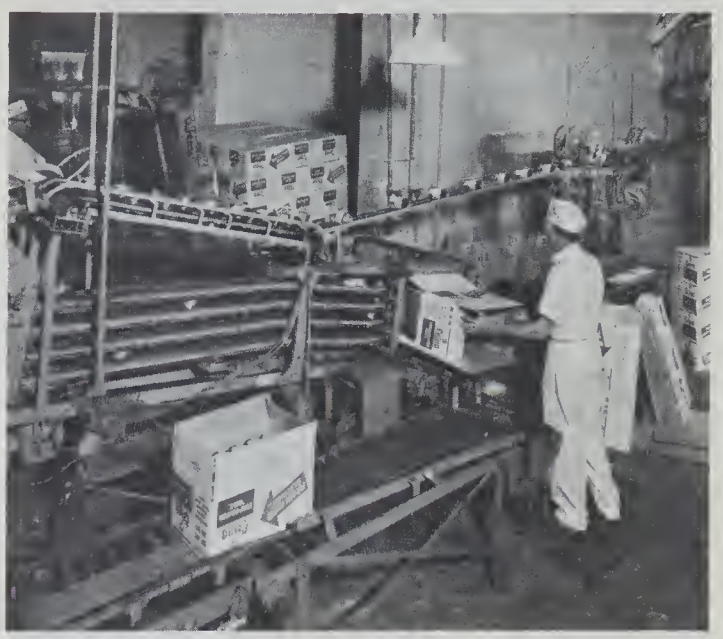


FIGURE 52.

. Figures 51 and 52 show the inside of another plant in Granby.

QUESTIONS:

(1) What is produced here? (Look at figure 51 upside down to answer this question.)

(2) What is this produce used for?

(3) What is the man in the foreground doing?

(4) What sector of the economy does he belong to?

(5) What "raw material" is used to make this product?

(6) Look at figure 52. What other milk product do you think is being produced here? (If you are not sure, look at the pile of finished products between the two men.)

(7) Why does the part of the plant pictured in figure 51 seem so much cleaner than the one pictured in figure 52?

(8) Looking back at figure 17, where would you think the milk used in this plant comes from? Now look at figure 63. What does the symbol —— stand for? This is the zone from which the cooperative obtains its milk. How many miles from Granby does the zone stretch?

(9) Why would it be less practical to have it come from far away?

These pictures were taken inside a modern plant which is located in Granby. Milk brought in from the countryside around Granby is made into butter and evaporated milk. Like Mr. Hébert, the workers shown in figures 51 and 52 belong to the secondary sector of the economy because they change milk (a "raw material") into butter, evaporated milk (a finished product). To which sector of the economy does a dairy farmer belong? The manager of the plant?

To find out more about the plant, we talked to Mr. Bouthillier (pronounced boo′ til ee ay) (figure 53). Mr. Bouthillier spoke French and the questions and answers have been translated into English for this book. Also, the wording of some sentences has been changed to make it easier to understand. The name on the building where Mr. Bouthillier works is *Cooperative Agricole de Granby* (figure 54), which means "Agricultural Cooperative of Granby" in English.



FIGURE 53.

FIGURE 54.



Question: Mr. Bouthillier, what is an "agricultural cooperative"?

Answer: Our cooperative is a group of farmers who want to solve some of their difficulties by working together. They pool their money to set up an organization which can give them the services they need at the lowest cost. The farmers who make up the Granby Cooperative are interested in getting the highest possible price for their milk. This is why they decided to make only very little money on the processing of milk, so this plant could pay them as much as possible for their milk.

Question: What help does the cooperative give to the farmer?

Answer: Since the buyers want milk products of the best quality, we make sure that our products meet these high standards. We have a laboratory (figure 55) to check both the milk brought in, and the milk products shipped out of the cooperative plant. Because of this checking procedure, our products are of a high quality and are in demand all over Canada. Did you know, for instance, that of all cheese produced in Canada, 25% comes from the Granby Cooperative?

Question: What other services does the cooperative offer its members?

Answer: The task of the farm service is to help the farmer develop better methods. As soon as the cows have been milked, the milk must be refrigerated—otherwise certain bacteria in the milk will start growing rapidly. Some farmers lower their full

FIGURE 56.





FIGURE 55.

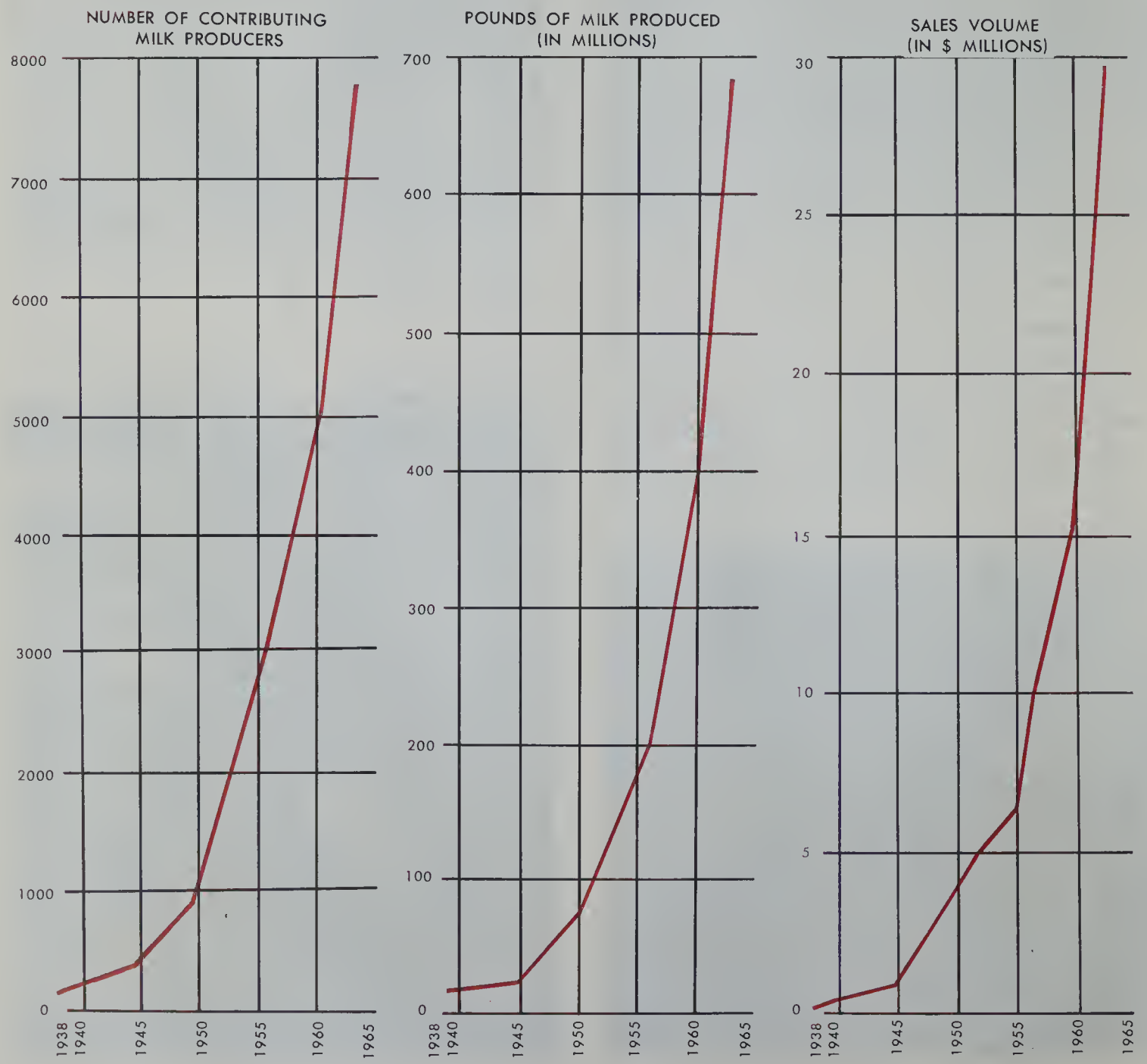
FIGURE 57.



milk containers into their water wells to cool them (figure 56) but this technique is not sufficient if the herd of cows is large. In that case, the member can call on the cooperative and it will install a large cooling unit (figure 57) for him.

The farmer will not have to pay immediately. A few cents are taken off every day as he sells his milk to the cooperative and after a few years his refrigerator will be paid for.

FIGURE 58.



Question: Do you have some figures that show us something about the growth of the cooperative?

Answer: The charts (figure 58) show the rapid growth of the Granby Cooperative since its foundation in 1938.
In the beginning, we only served farmers in the immediate surroundings of Granby. But since 1950, we have served members of all of Shefford County; presently we deal with more than 8,000 farmers in an area that covers most of the St. Lawrence Valley.

Question: Do farmers outside the Granby area send their milk to Granby?

Answer: No. Since 1954 we have set up plants in several other counties to serve those members.

Question: How do you go about picking up the milk?

Answer: In the Granby area alone, we have a fleet of 262 trucks to pick up the milk that is kept in cooled containers every day (figure 56). Similar trucks are used in other areas to ship the milk from the cooperative members to the plants. But we also have 12 up-to-date tankers of the type pictured below (figure 59), to pick up milk once in a while from farms which use refrigerators (figure 55). We hope that eventually we can use these tankers to pick up milk from all the farms.

Question: When the milk gets to the plant, what happens to it there?

Answer: The containers move on a conveyor belt to the laboratory. There the milk is checked for quality, and to find out how much there is.

Question: Is your plant close to being fully automated?

FIGURE 59.



Answer: Yes. The wrapping, crating, and conveying are all done automatically. (Which two stages are shown in figures 60 and 61?)

Question: Besides cheese and butter, what other items do you produce here?

Answer: Here are some other products of our plant:

—Fresh cream
—Ice cream concentrates
—Sweetened condensed milk
—Powdered milk
—Dietetic foods
—Skim milk
—Chocolate milk

QUESTIONS:

Using figure 58, answer these questions.

(1) Approximately how much milk was processed in the cooperative plant in 1967? (In such cases, it is usual to measure milk in pounds.)

FIGURE 60.

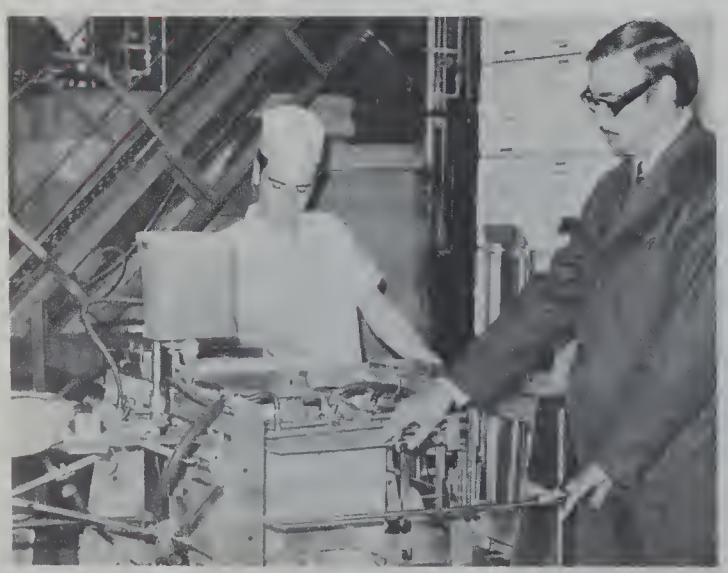




FIGURE 61.

(2) For approximately how many million dollars did the cooperative do business in 1960? Look at the chart headed "sales volume."

(3) For approximately how many million dollars in 1967?

(4) In sales volume, what have been the fastest growing years so far?

(5) In which years did the cooperative's membership increase the fastest? Let us look at some of the differences and similarities between the (textile company) Thor Mills Limited and the Granby Cooperative.

FACTORIES OF GRANBY, 1961

Kinds of Factories	Number of Labourers
Textiles	1,599
Rubber	681
Tobacco	510
Electrical appliances	868
Metal products	468
Food and drinks	540
Others	955
Total number of labourers	5,621

FIGURE 62.

QUESTIONS:

(1) The amount of money an enterprise makes on selling its product is called *profit*. What advantage is there for the farmer if the profit of his co-operative plant is low?

(2) Is it the aim of the cooperative plant to make as much money as it can? Is it the aim of the textile company?

(3) Look at figure 62.
 (a) Into which category does Mr. Hébert belong?
 (b) Who is more representative of the Granby labour force, Mr. Hébert or Mr. Bouthillier?

(4) Where does the raw material used in Thor Mills Limited (the textile company) come from? How is this different from the Granby Cooperative?

(5) What is the advantage of processing raw materials from the neighbouring areas?

Summary

The Granby Cooperative helps farmers in the Granby region in many ways. It buys milk, processes it into milk products, and sells these products all over Canada. But because the cooperative plant is run by the dairy farmers themselves, its aim is not to make a large profit. Instead, it pays the farmer as much as it can for his milk; and with the profit it does make, it helps the farmer increase his profits.

The aim of a business like Thor Mills, however, is to make a profit for the people who own the enterprise. Thor Mills has no interest in paying as much as possible to the suppliers of raw material.

Since the cooperative plant is owned by the more than 8,000 dairy farmers, they are the ones to benefit from the enterprise.

Thus in both cases, it is the *owners* who enjoy the greatest advantage from their enterprise.

UNIT VI: ZONES OF INFLUENCE

Let's go back to the interview we had with Mr. Bouthillier of the Granby Co-operative in the previous unit.

QUESTIONS:

(1) Do all farmers in the St. Lawrence Valley send their milk to the plant in Granby?

(2) Which area did Mr. Bouthillier say sent milk to the plant in Granby?

(3) Can you find the outline of that area or zone in figure 63? What is such an area called?

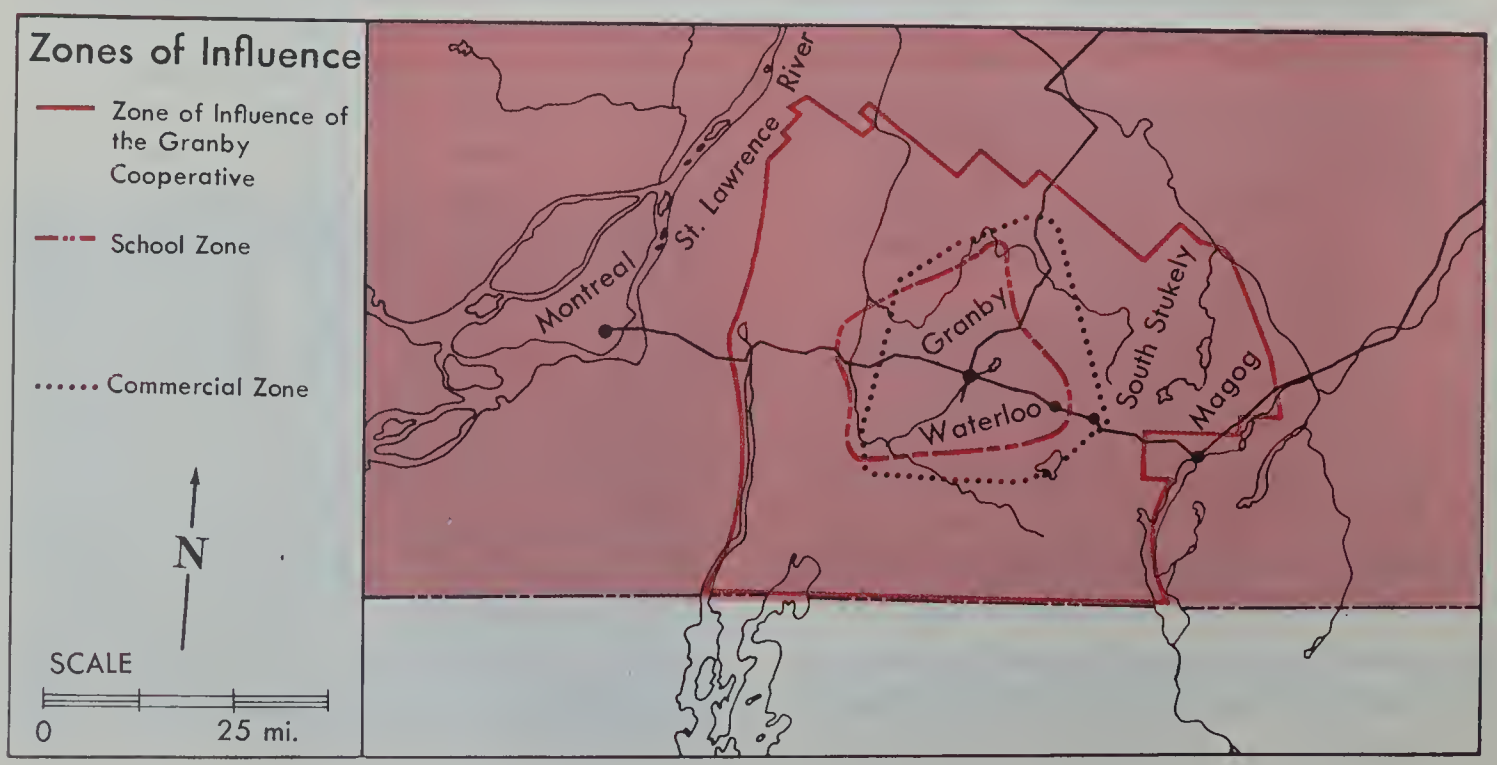
(4) Can you tell from figure 63, where a student from Waterloo would attend high school? What makes you think so?

(5) Where would a student from a farm near South Stukely probably attend high school? Why?

(6) Would his father be likely to send his milk to Granby?

(7) Is his farm within the Granby school zone of influence? Is it within the Granby Cooperative's zone of influence?

FIGURE 63.



(8) Find Granby's *commercial* zone of influence on the map. What can you tell about the habits of people in that zone?

Every morning school buses pick up a great number of students who live outside the city of Granby and bring them home again after school. Also every morning, the Granby Cooperative sends out 262 trucks (figure 64) to pick up the fresh milk from the farms. But since the trucks have all morning to pick up the milk, while the school buses do not, the area covered by the Cooperative trucks is much larger. Thus Granby's school zone of influence is smaller than that of the Granby Cooperative's plant.

QUESTIONS:

(1) Figure 65 shows a part of Granby's downtown section on a weekday. Find the church in our first view of Granby. Which way would one walk in this picture to reach the river?

 (a) Which of the two streets you can see do you think is Main Street?

 (b) Why is there so much traffic on Main Street and not on the other one? Look at figure 66 for ideas.

 (c) Name the kinds of business establishments you are likely to find on Main Street.

Six days a week, Granby's Main Street is crowded with cars and pedestrians. Most of these people live in the city, but many come from surrounding farms and towns.

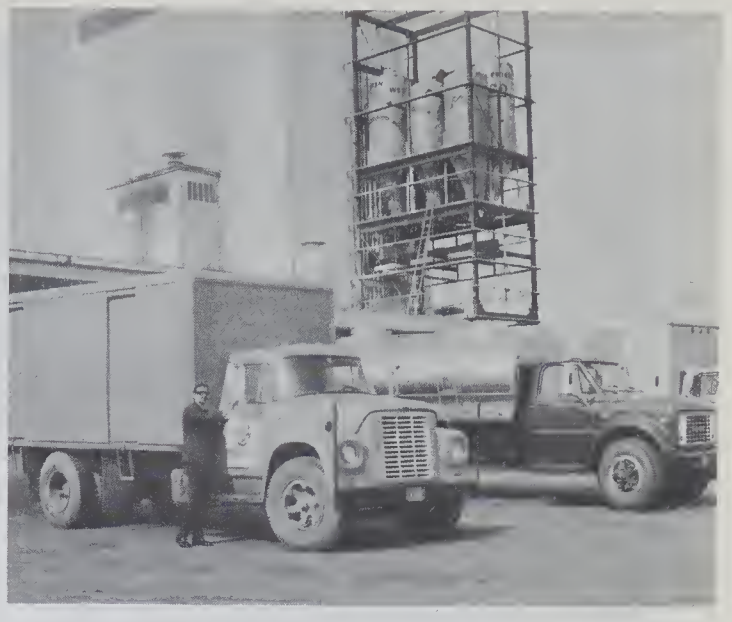


FIGURE 64.

(2) Most of these visitors come by car. Can you think of another way to get to town? (Look at the lower right-hand corner of figure 65 to answer this question.)

(3) Look at figure 67.

 (a) What articles can you see that the farmer from South Stukely might want to buy for his farm?

 (b) Would his choice be just as wide in a South Stukely hardware store? Why?

(4) What are some other reasons why the farmers would want to visit Granby? (Look at figure 68 and figure 69 for ideas.)

(5) When the farmers from South Stukely decide to go to a larger city for shopping, do you think they will choose Granby every time? When will they go to Granby? When to Waterloo?



FIGURE 65.



FIGURE 66.



FIGURE 68.

FIGURE 67.



FIGURE 69.



Let's review: Granby has three main functions for people in its surrounding area. What are they? Which is the biggest zone of influence? What function does Granby have for it?

Granby and the farmers of the Granby region are tied together in many ways. Not only do farmers send their milk to Granby, often they also send their children there for schooling, or visit the city for shopping or pleasure. Such people are therefore said to be living in Granby's "zones of influence." Every activity, however, has a different zone. The school zone of influence, for instance, is smaller than the Granby Cooperative's zone of influence. It is therefore hard to say exactly how large the "Granby zone of influence" is. There are no hard and fast boundaries. What, however, is at the *centre* of each zone or region? Yes, Granby. We call Granby a "regional centre." The people of Granby depend on the region for some of their food and some of their raw material.

At the same time, the people of the region depend on Granby for some of their shopping, schooling, leisure time activities, and other services. What word is used to show that the people of Granby and the region depend on one another?

Wherever you live you could make some enquiries which would let you draw a "zones of influence" map for your area.

(i) Mark on a map where every one in your class comes from each day.

(ii) Ask some nearby shopkeepers where their customers come from.

(iii) Do many hunters or tourists come into your area? Try to find out where they come from.

(iv) Does your area have any other functions for people who live outside it?

UNIT VII: SUMMARY



FIGURE 70.

Montreal

QUESTIONS:

1. What kind of buildings are shown in figure 70?
2. Look at figure 16, showing Granby's main street. Does Granby have buildings like those in figure 70?
3. What do you think these buildings are used for?
4. To which sector of the economy do the people belong who work in these buildings?
5. Think of a reason why Granby does not have such buildings.
6. Which large Quebec city is shown in figure 70?
7. How is this city different from Granby?

The downtown section of Montreal, figure 70, is the heart of Quebec's business world. Every morning, thousands of secretaries, accountants, and managers travel from the suburbs to these skyscrapers. They work for insurance companies, for wholesale companies, and for many other large businesses. For what

kind of business do most of the people in Granby work? Granby has no skyscrapers and no large office buildings. We have seen that Granby has a population of only 30,000 people, while Metro Montreal has over 2 million.

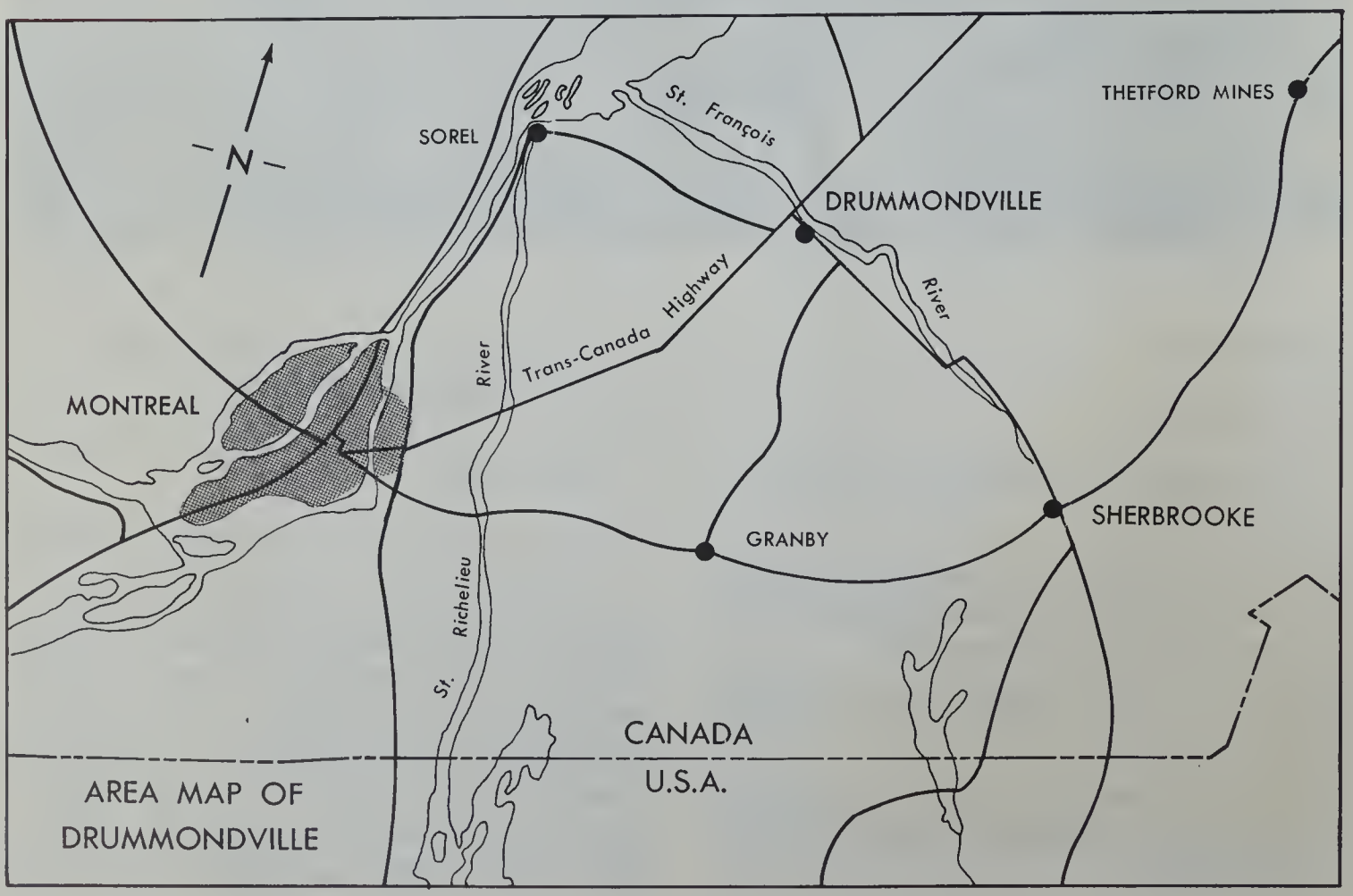
Granby is thus very different from Montreal. Which city, then, is more typical of cities in the Province of Quebec: Montreal or Granby? To find out, let us look at four more cities in Quebec.

Close to Granby is another town with an English name, Drummondville.

Drummondville

1. Drummondville is also close to the U.S. border. Why did a town become established here?
2. Look closely at the map. What two important means of transportation do you see going through Drummondville?
3. From our study of Granby, we saw how important a good location is for industry. Make a list of all the factors that would make Drummondville good for industry.

FIGURE 71.



Drummondville is in the heart of Canada's industrial belt, where over 80% of the Canadian manufacturing industry is located. Because it is close to Granby what would you guess to be its major industry? The major industry is textiles, and the biggest textile company manufactures synthetic fabrics. What does this say about the number of tertiary and secondary workers?

QUESTIONS:

1. Look closely at the size of the industries. Is there any one that stands out from the others? How is this different from Granby?
2. Look at the names of the streets and schools. What does this tell you about the extent of Drummondville's biculturalism?
3. In the lower left hand corner, there is the site for an industrial park. Does Granby have such a park? What does this park tell you about Drummondville's plans for their industry?

We can see that Drummondville wants to become a larger regional manufacturing centre. What has Drummondville done to attract more industry?



FIGURE 72.

Quebec City



FIGURE 73.

QUESTIONS:

1. What kind of buildings are along the waterfront?
2. Of what other city at which we have looked do these buildings remind you?
3. Do you think there would be as many tertiary workers in Quebec as in Montreal?
4. What is the name of thè river surrounding Quebec?
5. What does this mean for trade?
6. What other kinds of transportation can you see in the picture?
7. Look closely at the plant in the foreground. What are the white piles in front of the plant? Can you guess what kind of a plant it is? Here are some hints:
 1. What natural resource lies to the north of Quebec?
 2. For what kind of power could the surrounding water be used?
 3. What industry uses a lot of water power?

Shawinigan

QUESTIONS:

1. Look closely at this picture. You can see the head water in the lake (arrow). From here the water is drawn into the first building, and then into the steep channels.
2. What do the steep channels do?
3. What happens when the water reaches the power station?
4. What kind of power has been created?
5. Is water a raw material? What sector of the working population would be working in this plant?
6. What does this say about the type of industry in Shawinigan?

FIGURE 74.

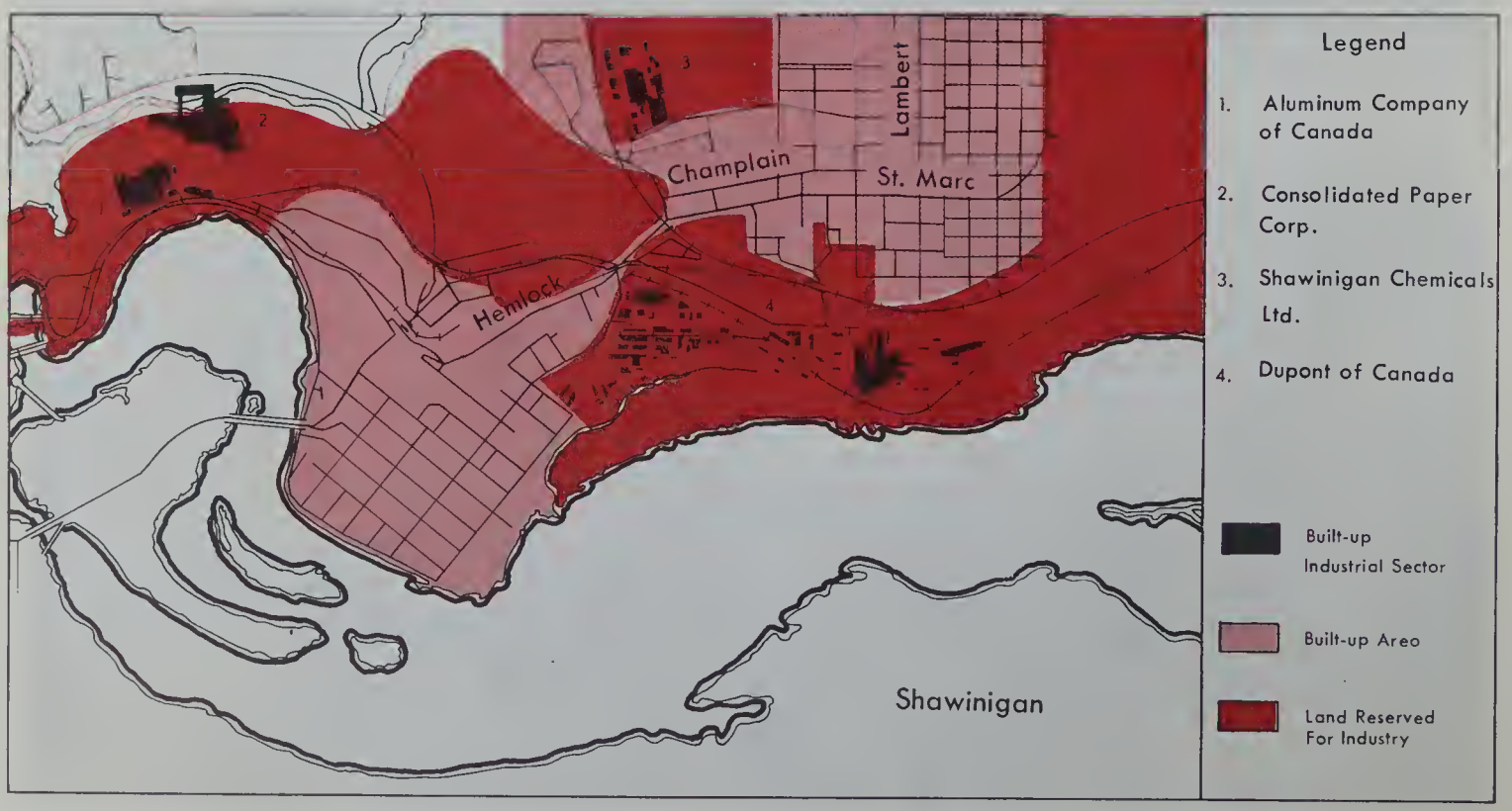


Power Plant, Shawinigan / 49

QUESTIONS:

1. Judging by their names, what sectors of the population would these different businesses employ?
2. Is there a great difference in size between the factories? What factory would seem to employ the most workers?
3. From our study of Granby, what is different about the sizes of these different companies and the sizes of the companies in Granby?
4. Look at the code for the shaded area carefully. One of the shadings indicates an area that is going to be developed. What changes do you think this expansion will bring to Shawinigan?
5. Shawinigan is a "designated area" set aside by the government. This means that new manufacturing and processing establishments in such areas are entitled to important benefits. These benefits are designed to help the owners of the plants to locate their factories cheaply. In what way is such a place similar to the Granby Co-op? In what way could it help Shawinigan to develop further as a regional centre?
6. Look at the names of the companies. Compare them to the names of the streets. What does this tell you about Shawinigan's biculturalism?

FIGURE 75.



Sorel

QUESTIONS:

1. Look closely at the map. How far is Sorel from Montreal and Quebec? On what important body of water is it located?
2. Look at its size. Do you think it would be important as a trade centre?
3. For what other purposes could such a location be useful?
4. What sort of manufacturing industries use a lot of water? Look at the section in Granby on air and water pollution and at figures 77, 78 and 79. Now can you guess what sort of industries are in the Sorel area?
5. What river valley lies to the south of Sorel? This valley is famous as a rich agricultural area. What does this tell you about Sorel as a regional centre?

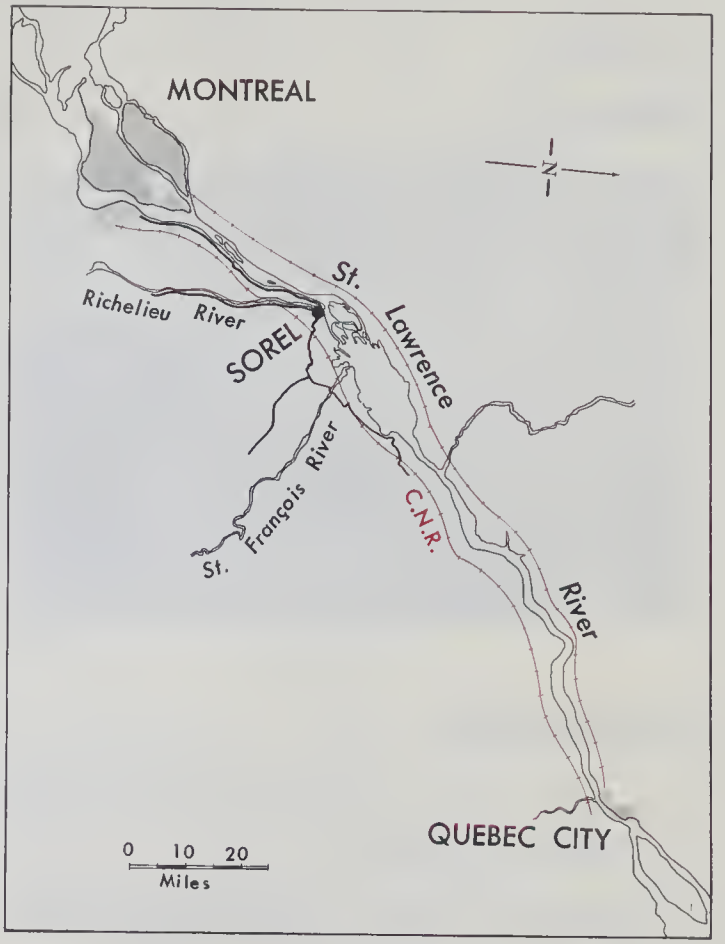


FIGURE 76.

FIGURE 77.

Quebec Iron & Titanium Corp.



FIGURE 78.

Quebec Metal Powders



FIGURE 79.

Atlas Steel



6. Look at Figures 77, 78 and 79. What do these industries have in common? Would they be called heavy or light industries?
7. What transportation routes would be the most likely to transport the raw materials needed for these industries?

Conclusions

1. Compare the population of the five cities on the chart.
2. How does Granby compare with these other cities in population?
3. What two cities stand out as different in population?
4. In what other ways are they different from the other three towns?

FIGURE 80.

City	*Population (1961)*	*% of working population in wholesale trade*	*in mfg.*	*High rise present*	*Indust. mfg.*	*Trade Centres and Markets*	*Large Retail Centres*
Granby	31,463	1.5%	82%	no	yes	yes	no
Drummondville	27,909	1.0%	78%	no	yes	no	no
Shawinigan	32,179	0.1%	68%	no	yes	no	no
Sorel	17,147	0.8%	73%	no	yes	yes	no
Quebec	357,158	6.7%	35%	yes	yes	yes	yes
Montreal	2,109,509	7.6%	68%	yes	yes	yes	yes

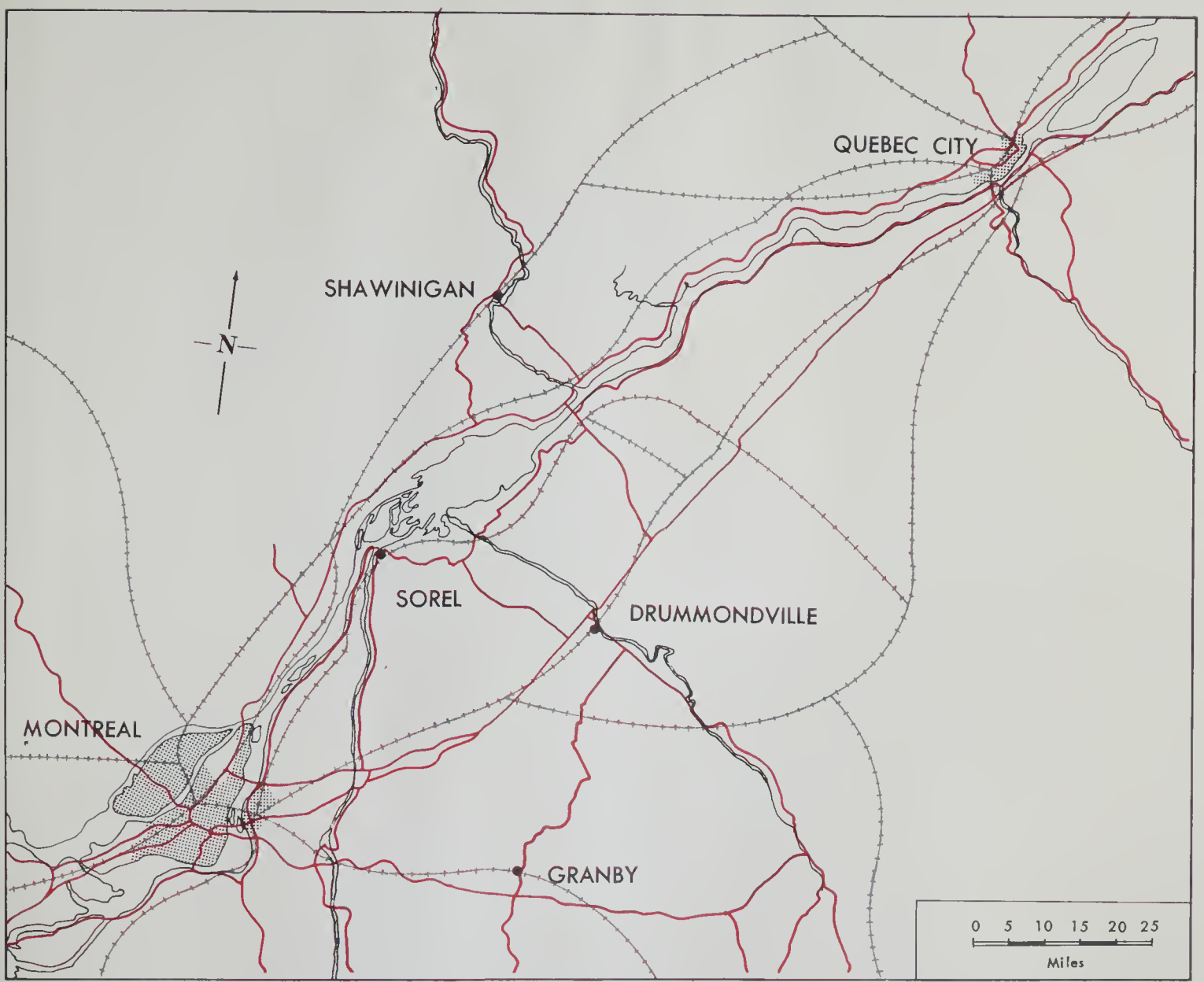


FIGURE 81.

5. In the case of Granby, what is the finished product from Mr. Hébert's factory?
6. What must be done to it before it becomes a piece of clothing that we can wear?
7. What sort of a factory makes it into a blouse?
8. What else must be done before we can buy it?
9. Do the big centres have large stores?
10. Can you see now what effect larger centres have on the industry of Granby? Would you say that the same is true for Shawinigan, Drummondville and Sorel?

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